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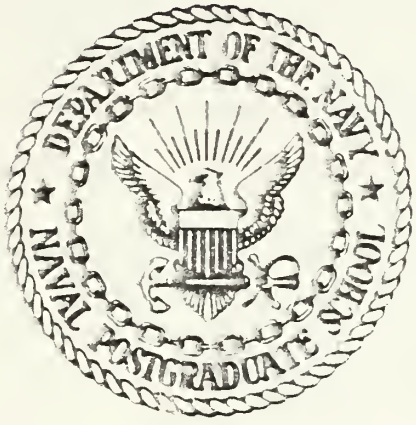


# THESIS

A SYSTEMS ANALYSIS AND DESIGN PROPOSAL
FOR THE SUPPLY DEPARTMENT'S PLANT AND
MINOR PROPERTY PROCESS AT THE
NAVAL POSTGRADUATE SCHOOL

by

Michael L. Ross
and
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March 1987

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# A Systems Analysis and Design Proposal for the Supply Department's Plant and Minor Property Process at the Naval Postgraduate School

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MASTER OF SCIENCE IN INFORMATION SYSTEMS

from the

NAVAL POSTGRADUATE SCHOOL
March 1987

ABSTRACT

The current system used to administer Plant Account equipment for departments at the Naval Postgraduate School involves over 4500 items. The current Minor Property System is decentralized and encompasses approximately 60,000 items. A recent Naval Directive called for the centralization of Minor Property systems. This thesis was undertaken to assist the Command in compliance with this directive and to improve Command property management. Implementation of a management information system (MIS) to support property management functions would achieve these two objectives, as well as eliminate redundant data handling and improve property management administrative effectiveness. To aid in meeting the above objectives the following deliverables are presented in this paper: detailed system specifications for database application, data dictionary, file structures, and hardware specifications.

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## LIST OF ACRONYMS

| | |
|---|---|
| ADPE | Automatic Data Processing Equipment |
| AIMS | Automated Information Management System |
| DARIC | Defense Automation Resources Information Center |
| DBMS | Database Management System |
| DIPEC | Defense Industrial Plant Equipment Center |
| DOD | Department of Defense |
| DRMO | Defense Reutilization Management Office |
| IC | Issue Control |
| ID | Identification |
| IE | Industrial Equipment |
| IPE | Industrial Plant Equipment |
| IPO | Input/Process/Output |
| LAN | Local Area Network |
| LCM | Life Cycle Management |
| MIS | Management Information System |
| N/A | Not Applicable |
| NAVCOMPT | Navy Comptroller |
| NID | Naval Identification Number |
| NPS | Naval Postgraduate School |
| NSCO | Navy Supply Center Oakland |
| PMB | Property Management Branch |
| PMPS | Plant and Minor Property System |
| PPAO | Plant Property Account Office |
| SOP | Standard Operating Procedure |

# I. INTRODUCTION

## A. BACKGROUND

The Plant Property System is an administrative procedure by which the Naval Postgraduate School (NPS) records and maintains accountability for Class III and Class IV government property purchased for and currently residing at NPS. In general, Class III property refers to all equipment and accessories that meet the following criteria:

- Unit cost greater than $5,000 (after 1 Oct 86) $1,000 (prior to 01 Oct 86)
- Useful life greater than two years
- Not consumed in use
- Not stocked in the Navy Supply System
- Not part of Class II (which is generally a building or other structure)

Class IV property is broadly concerned with all equipment and machines costing greater than $5,000 and identified as Industrial Plant Equipment (IPE). A further distinction between Class III and Class IV property is that which constitutes Plant versus Minor property. The determining factors are as follows:

- Plant property consists of all Class III and IV property costing more than $5,000 after 1 Oct 86, or greater than $1,000 prior to 1 Oct 86.
- Minor property consists of all property costing more than $300 but less than $1,000 prior to 1 Oct 86, or less than $5,000 after Oct 1 86.

The Life Cycle Management (LCM) process for both Plant and Minor Property and its corresponding activity at NPS is as follows:

| LCM Process | NPS Activity |
|---|---|
| - Initiating a requisition | - Requisition |
| - Acquiring an item | - Purchasing |
| - Receipting | - Receiving |
| - Custodial duties | - Use |
| - Reutilization (Disposal) | - Turnover |

Currently, Plant Property comprises approximately 4500 line items while Minor Property is estimated to have over 60,000 line items [Ref. 1].

The Plant Property System currently residing at NPS is predominantly a centralized manual system with a copy of each record and/or transaction entered into a Wang Computer System using the AIMS software package. Prior to any interviews, the system was reported to be automated. After conducting a series of interviews with personnel involved in the process, however, this design team discovered that the automation was limited to two applications. At present, one of the automated processes involves the storing of each record/transaction on magnetic media. The other automated function is an ad-hoc report/information request to provide the departments with one of the following:

- A listing of Plant Property by Department
- Automatic Data Processing Equipment (ADPE) by Department

The Minor Property System in use at NPS prior to 1 Oct 86, was a decentralized process with each department responsible for its own identification, recording and tracking system. As of 1 Oct 86, each Command has been tasked by the Navy Comptroller (NAVCOMPT) with centralizing the Minor Property System's administrative and accounting responsibility. This change was necessitated by the poor accountability, and responsibility, throughout the Department of the Navy with regards to Minor property.

## B. PURPOSE

The thesis has the following two main objectives:

1. Improve and integrate the current Plant and Minor Property accounting systems.
2. Design the system in a structured, methodical, clear and concise manner so that it can be coded and implemented in modular fashion.

The intent of the analysis and design is to provide a comprehensive and responsive system to support the needs and expectations of a centralized management responsibility. In addition, it should also facilitate acceptance and use of the system by the authorized departments in an efficient and consistent manner which meets and/or exceeds the specified requirements cited in the NAVCOMPT manual [Ref. 1].

## C. SCOPE

This thesis focuses on the requirements approach and the development of an integrated solution for the Plant and

Minor systems at NPS's Supply Department. We have accomplished this task by reviewing current regulations covering the areas of concern and by in-depth interviews of personnel concerned with the proposed system. The methodology used during this thesis was to follow modern software engineering techniques and database development techniques [Ref. 3].

## D. METHODOLOGY

The system development process for this project is similar to other software engineering development processes. Before a system can be evaluated the designer must first be able to identify and have a detailed understanding of its processes and intra/inter relationships. A common violation of this process occurs when the development team starts out to solve a problem using a particular method. This design team started out by looking at the existing system to ascertain how well it performed its required functions as specified by applicable instructions [Ref. 3]. From this analysis current and potential problem areas were identified for management review and consideration.

With this set of problem areas defined, clear communication was critical when identifying the proper solution. If the end users of this or any other system do not stay actively involved in the development process, the resulting product will probably not be of much use. This design team was able to avoid this problem by conducting regular

meetings with the system users to ensure that the development effort would result in the right product.

The tendency to adopt the first solution that occurs is a major problem in software engineering. One way to avoid this problem is to keep development in a logical context as long as possible. This results in solutions being generated without regard to feasibility, since it is not possible for humans to be both creative and critical at the same time. Typically, an unreasonable approach will generate creativity and foster reasonable ideas. The logical method allows for greater flexibility in the project until the end product is developed. [Ref. 3]

## E. DESCRIPTION OF THE CHAPTERS

The user's information and administration requirements for the proposed Plant and Minor Property System (PMPS) are discussed in Chapter Two. This chapter presents the current status of the system in order to achieve a firm understanding of how the current Plant Property system operates. The requirements of the user must be known and thoroughly understood before developing an effective system to assist the Property Management Branch (PMB) in meeting its assigned tasks [Ref. 2]. System requirements were kept as specific as possible to assist the development team in designing the right solution for a particular problem. The user requirements are presented via a compact listing for easy reference

in the future. An explanation of these requirements and their feasibility is also presented to ensure a clear understanding of the tasks at hand.

Chapter Three evaluates the different alternatives available to PMB concerning the proposed PMPS requirements as previously presented. Procedures and personnel training will not be considered in depth during the evaluation, instead the evaluation will focus on the software/hardware requirements, alternatives, and supportability/maintainability issues.

The proposed logical model of the PMPS is discussed in Chapter Four. Data flow diagrams along with a data dictionary are used extensively in the presentation of the new logical model. A narrative description of the logical model concludes the chapter.

With the presentation of the new logical model, Chapter Five discusses the detailed design and database relations of the proposed PMPS. The detailed design is depicted by the use of Hierarchy and Input/Process/Output (HIPO) charts.

Chapter Six deals with the system implementation. Detailed hosting hardware requirements, system error handling, and system acceptance criteria will be discussed in varying degrees of detail.

The final chapter presents this design team's conclusions on the proposed PMPS. A review of how the proposed system will meet the user requirements, along with an implementation guide, is also included.

## II. REQUIREMENTS DEFINITION

### A. PROBLEM DEFINITION

The Supply Department has the following goals with regard to Plant and Minor Property:

- Integrate these two new functions into their current organization.
- Tighten up the recording and transferring procedures to ensure data integrity.
- Develop an automated system to help management ensure data integrity as well as program effectiveness and efficiency for the Plant and Minor property systems as a whole.
- Develop an automated system which has the capability of being downloaded to each department after implementation at this level.

### B. PLANT PROPERTY

The current Plant Property accounting system at NPS is administered in two parts--those tasks and functions external to the Plant Property Account Office (PPAO) and those internal. The tasks outside the purview of the Plant Property Office are as follows:

| Task | Performed By |
|---|---|
| - Requisitioning | Individual Departments |
| - Purchasing | Supply (Purchasing Section) |
| - Receiving | Supply (Receiving Section) |
| - Use | Individual Departments |
| - Turnover | Supply (Reutilization Section) |

These particular functions play an integral part in the ability of PPAO to achieve its assigned responsibilities. Most of the time, the interfaces between the various users work well both in theory and in practice. However, there are a few exceptions which include the following:

1. The system is a manual process that is steeped in the tradition of creating and distributing of paperwork.

2. Each new level of review almost always implies a new form in addition to transferring and relaying essential information.

3. At each one of these transfer points the margin for error increases as a function of the workload, diligence and overall proficiency of the individual assigned.

4. At each relay point the opportunity always exists for oversight or loss of an essential document.

Both of these areas are critical to PPAO's ability to achieve its assigned tasks and responsibilities in an efficient and effective manner. A complete description of interfaces is beyond the scope of this document due to cross functional responsibility and authority. They have been mentioned only to provide a clear conceptual model of the overall system which includes its inputs, outputs and potential shortcomings and/or pitfalls.

Within PPAO the administrative functions can be broadly categorized up into two major tasks: acquisitions and disposition. Figures 2.1 through 2.5 provide the following information concerning PPAO:

- Overview of the input and output documents to the Plant Property Office. (Figure 2.1)

- Overview list of the system documents showing originator, receiver and purpose. (Figure 2.2)
- Different users and processes between acquisitions and dispositions. (Figure 2.3)
- Current logical acquisition process. (Figure 2.4)
- Current logical disposition process. (Figure 2.5)

1. Acquisitions

When a department seeks to procure a piece of equipment they initiate a requisition and forward it to the Supply Department's Issue Control (IC) section. This section validates the requisition by determining whether or not the item is in standard stock or available via excess or any other government source. From IC the request is forwarded to the comptroller's branch for verification of funds. After this check is complete it is returned to IC who in turn date stamps the request. The valid request is then sent to Purchasing.

The Purchasing section creates a Purchase Order (DD 1155) from which one copy is sent to PPAO, thus initiating PPAOs involvement. PPAO places the DD 1155 in a pending file and takes no further action until telephonically notified by Receiving (part of Supply Department) that an item has arrived. This call results in a DOD Property Record Card (DD 1342) worksheet and serialized identification (ID) tag(s) being issued to Receiving who then transfers the equipment, the worksheet, and the tag(s) to the respective department.

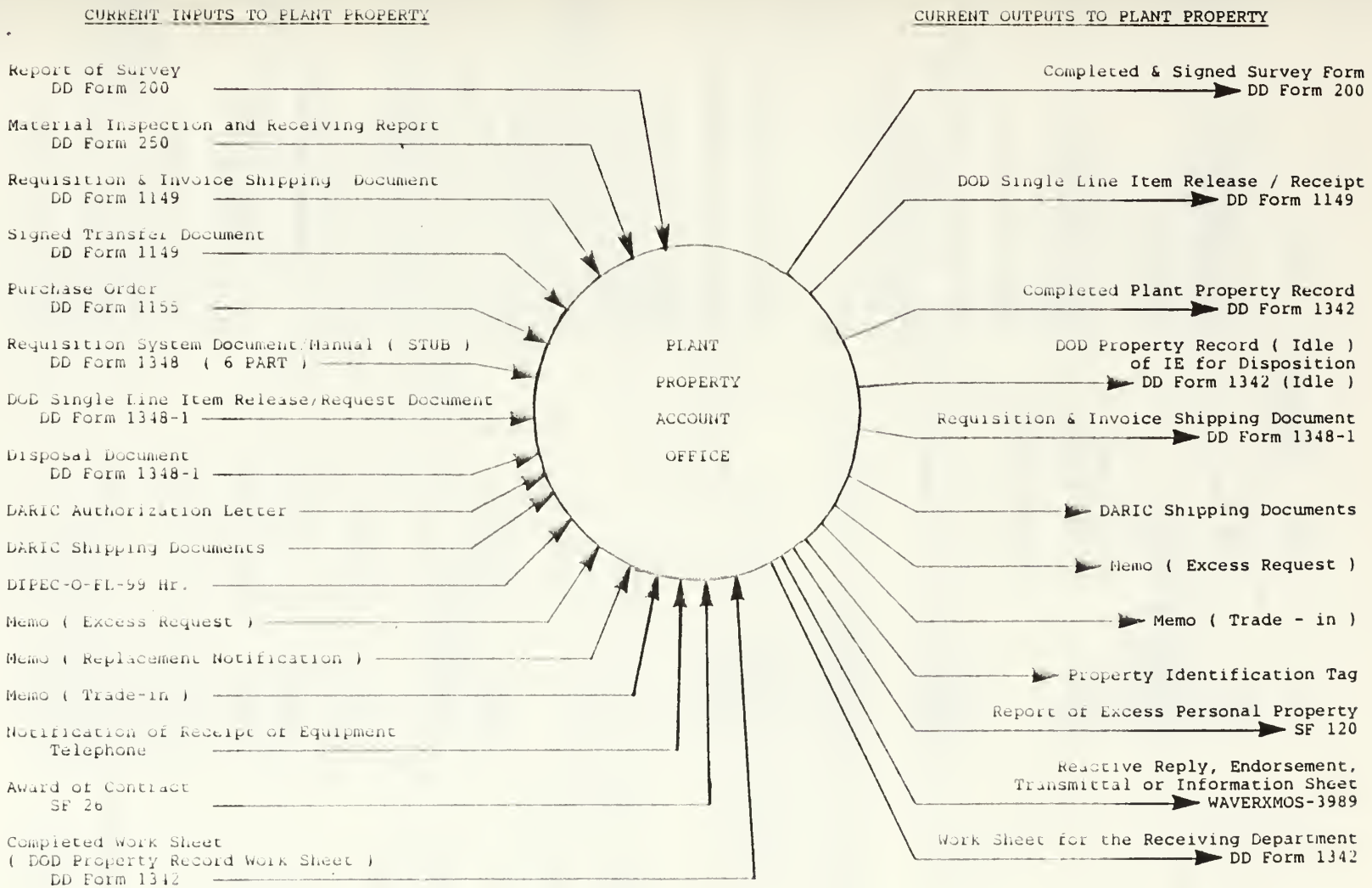



Figure 2.1 Overview of the Input & Output Documents to the Current Plant Account System

| FORM | TITLE | ISSUER | ACQUISITION DISPOSITION | PURPOSE |
|---|---|---|---|---|
| DD 200 | REPORT OF SURVEY | LOCAL DEPT OR ISSUE CONTROL | D | Used to notify PPAO that a piece of equipment is lost, stolen, or damaged |
| DD 250 | MATERIAL INSPECTION & RECEIVING REPORT | ANOTHER COMMAND OR AGENCY | A | Describe Equipment and Acquisition Characteristics |
| DD 1149 | REQN AND INVOICE SHIPPING DOC. | ANOTHER COMMAND | D | Receipt of equipment |
| | | FREIGHT CONTROL | D | Used to ship excess equipment to another command |
| | | ANOTHER COMMAND | A | Excess equipment received from another command |
| DD 1155 | PURCHASE ORDER | PURCHASING | A | Used to order equipment for supply |
| DD 1342 | DOD PROPERTY RECORD | PLANT PROPERTY | | When new equipment is received and logged in 3 copies to NSCO 1 copy to the department 1 copy to file in PPOA |
| DD 1342 (IDLE) | DOD PROPERTY RECORD IDLE RPT OF IE FOR DISPOSITION | PLANT PROPERTY | D | Used to report idle IE to DIPEC |
| DD 1348 (6 PART) | REQN SYSTEM DOC. MANUAL (STUB) | LOCAL DEPARTMENT | A | Initial request to requisition an item |
| DD 1348-1 | DOD SINGLE LINE ITEM RELEASE | ISSUE CONTROL | D | Used to transfer excess equipment |
| | RECEIPT DOC. | ANOTHER COMMAND | A | Used to ship excess equipment from another command |
| DARIC Authorization | LETTER | DARIC | D | Authorizes diposition of ADPE either locally or to another command INCL shipping instr. |
| DIPEC-0-FL-99 | LETTER | DIPEC | D | Authorizes Disposition of IE either locally or to another command with shipping instructions |
| MEMO-E | EXCESS REQUEST | LOCAL DEPARTMENT | D | Request to excess one or more pieces of equipment |
| MEMO-R | REPLACEMENT REQUEST | LOCAL DEPARTMENT | A/D | Notifies PMB that an item has been replaced and the records require updating |
| MEMO-T | TRADE - IN REQUEST | LOCAL DEPARTMENT | D | Notifying PMB that a piece of equipment is being traded in on a new procurement |
| N/A | PROPERTY IDENTIFIER TAG | PLANT PROPERTY | A | Serialized property tag |
| SF 26 | AWARDS/ CONTRACT | OTHER COMMAND ACTIVITIES | A | Notice of equipment on order by higher command and designated for NAVFACS |
| SF 120 | REPORT OF EXCESS PERSONAL PROPERTY | PLANT PROPERTY | D | To request disposition instructions for ADPE |
| WAVERXOS-3989 | REACTIVE REPLY ENDORSEMENT, TRANSMITTAL OR INFORMATION SHEET | PLANT PROPERTY | A/D | Document transmittal or Request or Notification to various other Commands |
| W/S 1342 WORK SHEET CODE 0024 | DOD PROPERTY RECORD | LOCAL DEPARTMENT | A | Used to record property tags and other user info for the DD-1342 |

Figure 2.2 List of Forms Associated with the Current Plant Property System

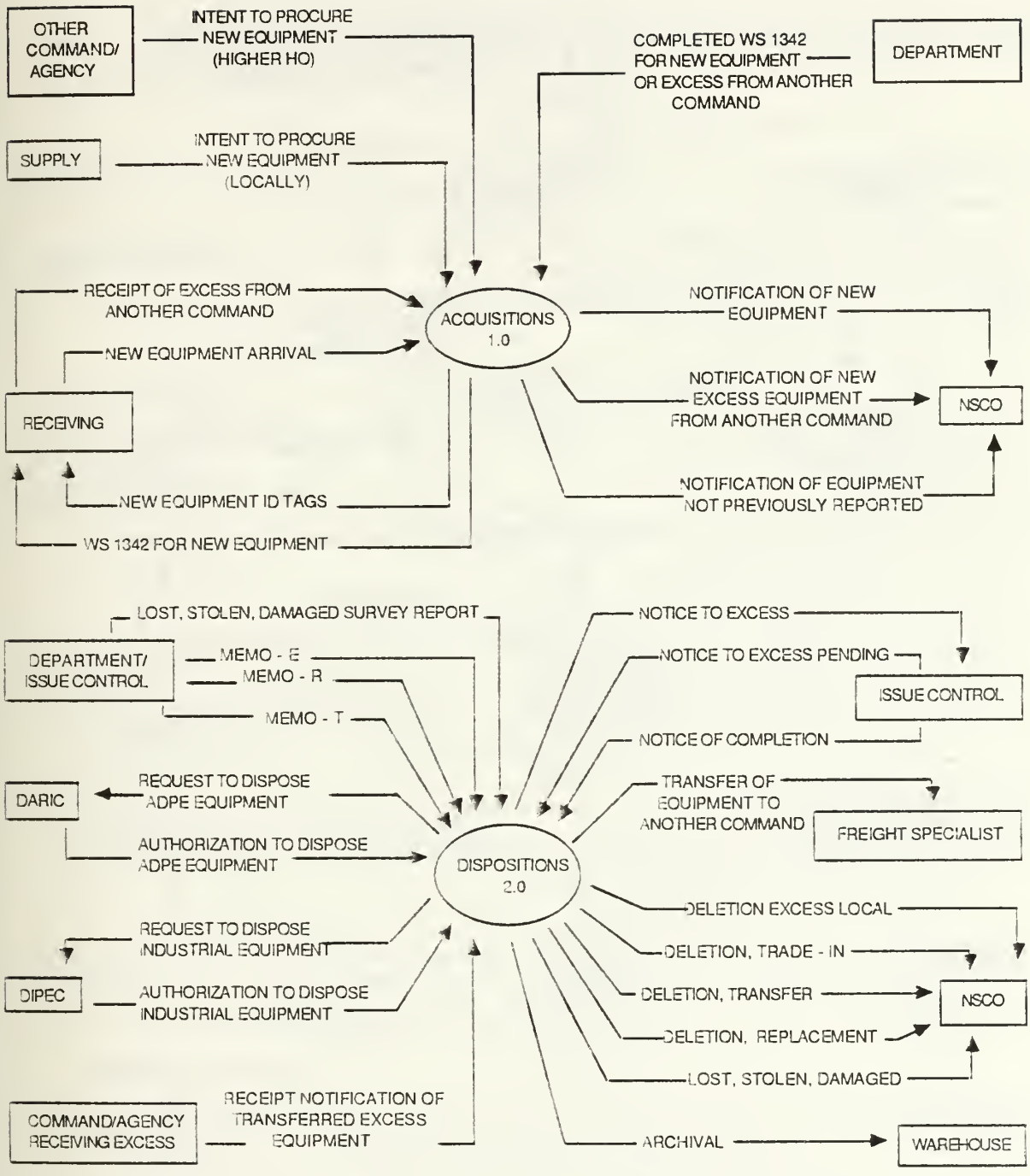
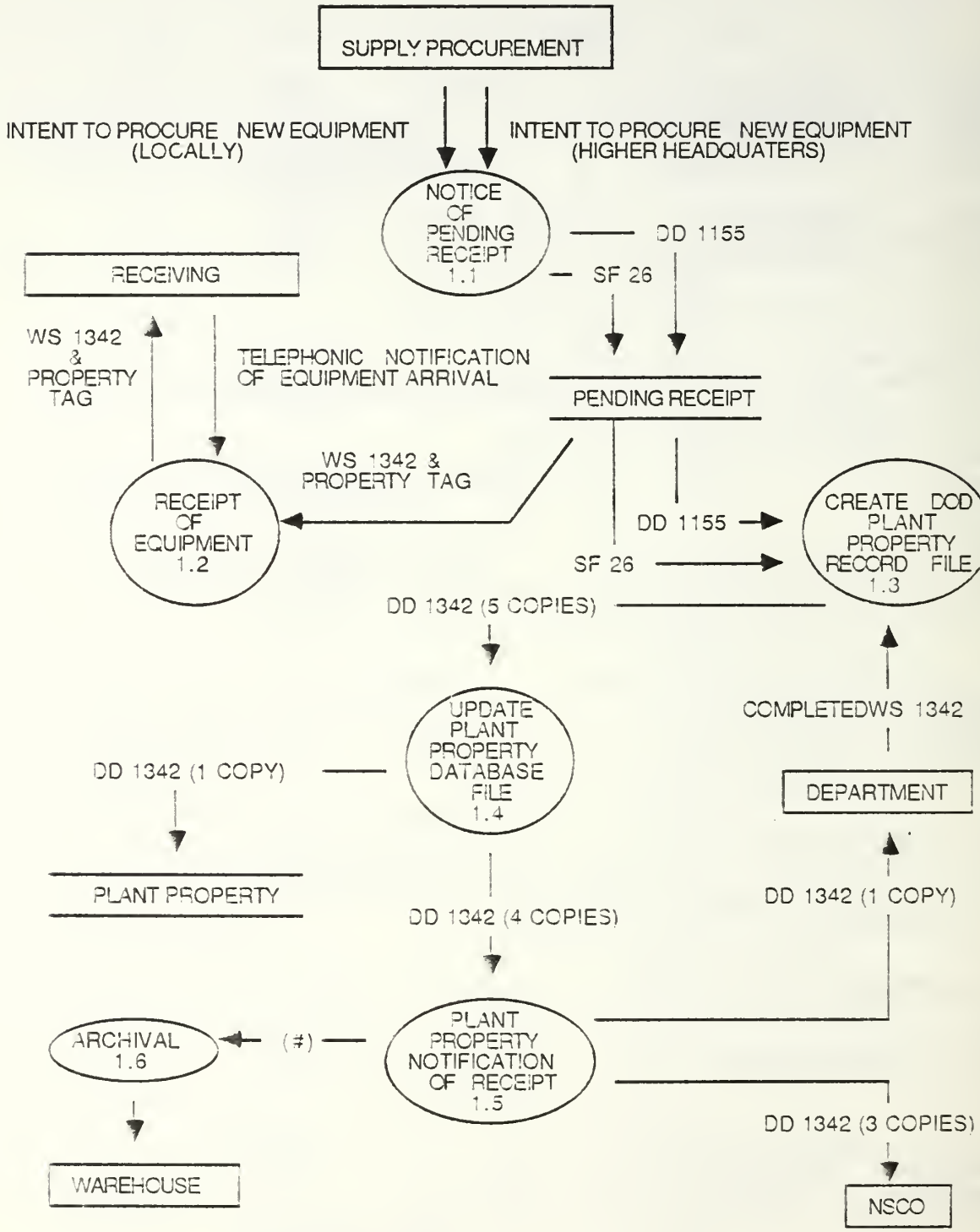


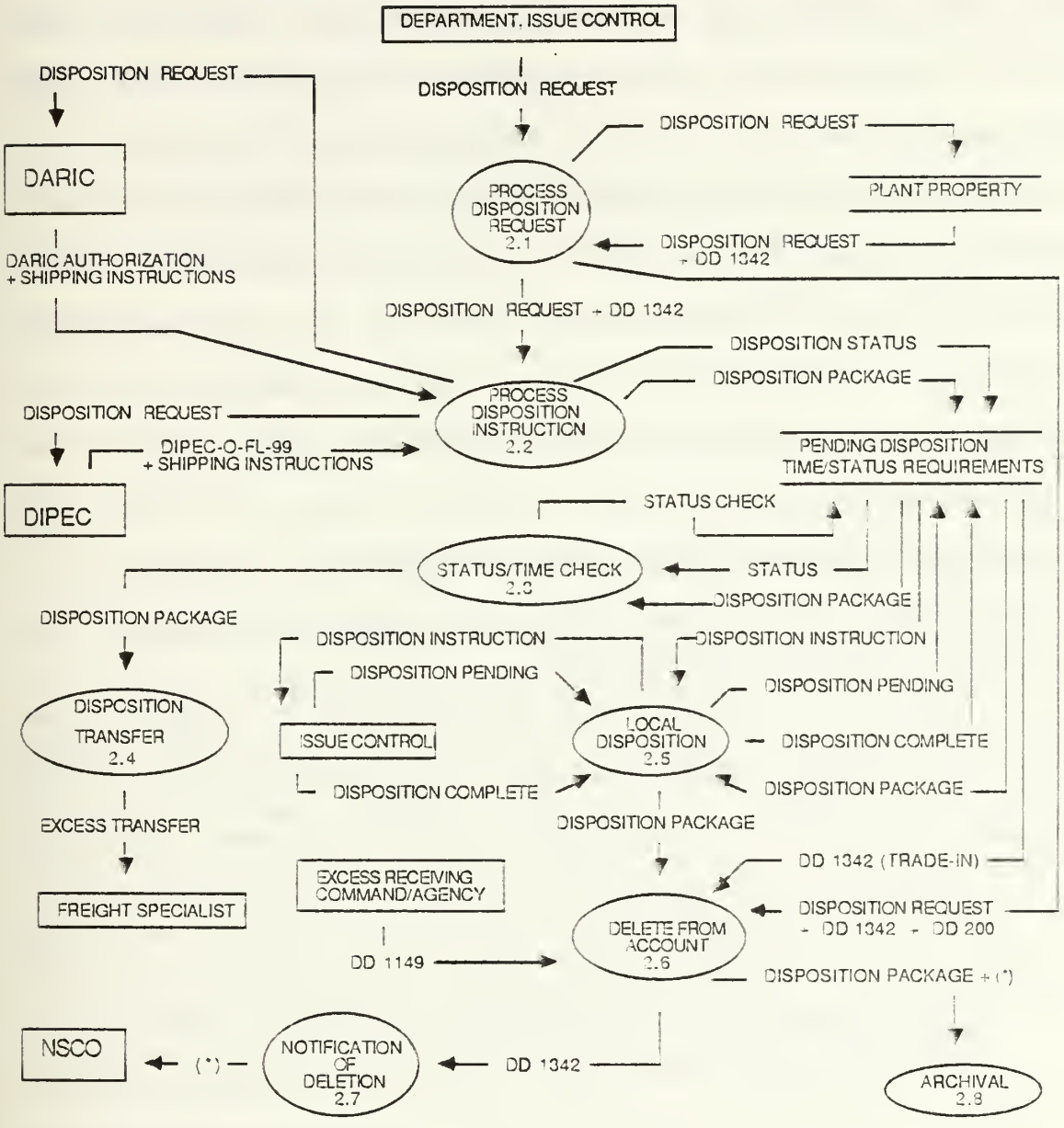

Figure 2.3 Overview of the Current Plant Account System




NOTES:

(#) = DD 1155 + SF 26

Figure 2.4 The Current Logical Acquisition System




NOTES:

DISPOSITION REQUEST = MEMO-E; MEMO-T; DD 200; DD1342 IDLE; SF 120;

DISPOSITION PACKAGE = DIPOSITION REQUEST + DIPEC AND/OR DARIC AUTHORIZATION
+ DIPEC AND/OR DARIC SHIPPING INSTRUCTIONS

(*) = ORIGINIAL DD 1342 ( 1 PART ) + ONE OF THE FOLLOWING :

- DD 1149 SIGNED
- DD 1348-1 ( ACTION COPY )

Figure 2.5 The Current Logical Disposition System

Upon receipt of the equipment, the department fulfills its responsibility by completing the DD 1342 worksheet and affixes the appropriate property ID tag. Once this is accomplished, the worksheet is returned to PPAO where an original DD 1342 is created on a five part form. One copy is returned to the originating department, three copies are mailed to the Navy Supply Center Oakland (NSCO), and the original is maintained at PPAO in an individual file expressly for that line item. The transaction is now entered into the existing computer system. This process has two exceptions:

- Arrival of excess from another Command
- Procurement of equipment for this Command by another Command/higher Headquarters

Arrival of excess from another Command begins when the Receiving Department receives the equipment, fills out a worksheet (DD 1342), and transmits that worksheet to PPAO. PPAO then returns the property ID tag(s) to the department. The rest of the process, where applicable, remains unchanged.

The procurement of equipment by an outside Command or agency is handled in the same manner as a local procurement except that an Awards/Contract Document (SF 26) is received by PPAO. The remainder of the process is unchanged from that of a local procurement.

2. Disposition

The disposition phase (also known as reutilization) is a great deal more complicated than the acquisition phase. There are five types of dispositions:

- Industrial Plant Equipment
- Automatic Data Processing Equipment
- Transfer disposition
- Trade-in
- Local disposition

All reutilizations are initiated by the Custodial department via a memo to PPAO. Once PPAO receives the memo, it determines which of the five categories the disposition falls under and proceeds accordingly.

Both IPE and ADPE must be authorized by their own higher approval authorities: Defense Industrial Plant Equipment Center (DIPEC) and Defense Automation Resources Information Center (DARIC) respectfully. Responses from these two Commands fall into one of three categories:

- Hold for specified screening period time (usually 180 + 21 days). The 180 days applies to all government agencies and the 21 days is for qualified donation recipients.
- Local Disposition
- Transfer to another Command

If no other organization desires to reutilize the equipment at the conclusion of the 201 days, it then falls into the local disposition class. On the other hand, if

during the 201 days an organization has need of the equipment, it is processed as a transfer.

All transfers are authorized via DIPEC or DARIC respectfully and then sent to the PPAO. Once received, these equipment items (as specified in the accompanying paperwork from DIPEC and DARIC) are verified against PPAOs DOD Plant Property Record Card (DD 1342). The reconciled paperwork, plus any shipping instructions, is sent to the Freight Specialist Office (part of the Supply Department) for transfer. No other action is taken by PPAO until a signed Requisition and Invoice Shipping Document (DD 1149) is returned by the receipting Command. Once the DD 1149 is received, the original DD 1342 and other associated documents are forwarded to NSCO for deletion from the activities account. Meanwhile, the activity deletes the item from its database locally and transfers the related paperwork to the completed file.

Trade-in dispositions are sent to PPAO via a memo along with verification of the trade-in value. This type of disposition occurs when a department literally trades a piece of existing equipment for a new one. Once the memo is received and processed, all accompanying paperwork is forwarded to NSCO for deletion. It is subsequently deleted from the local AIMS database also.

The final disposition category, local disposition, applies to all equipment not in one of the other four categories, and is initiated by a request for disposition

from a particular department. Once received, the requesting memo and a copy of the DD 1342 are forwarded to Issue Control (part of the Supply Department) for processing at Fort Ord's Defense Reutilization Management Office (DRMO). Once the DRMO accepts responsibility for the equipment, a completed DD 1348-1 is returned to PPAO via IC. This form, along with the original DD 1342 and all other associated paperwork, is forwarded to NSCO for deletion from their database as well as the one residing at NPS.

C. MINOR PROPERTY

As of November 1986 there was no centralized Minor Property System at NPS. The various departments of the Command now control Minor Property according to their own rules. Due to a change in the requirements to centralize Minor Property administration and reporting, there is a demonstrated need for a system to handle this function.

The Naval Postgraduate School Supply Department's Property Management Branch is currently being reorganized. The organization changes should be in place by 01 January 1987. The new organization structure chart is presented in Figure 2.6.

During the course of conducting its assigned responsibilities and tasks associated with Minor Property, the Property Office will interface with other departments throughout the Command. Figure 2.7 demonstrates this proposed relationship.

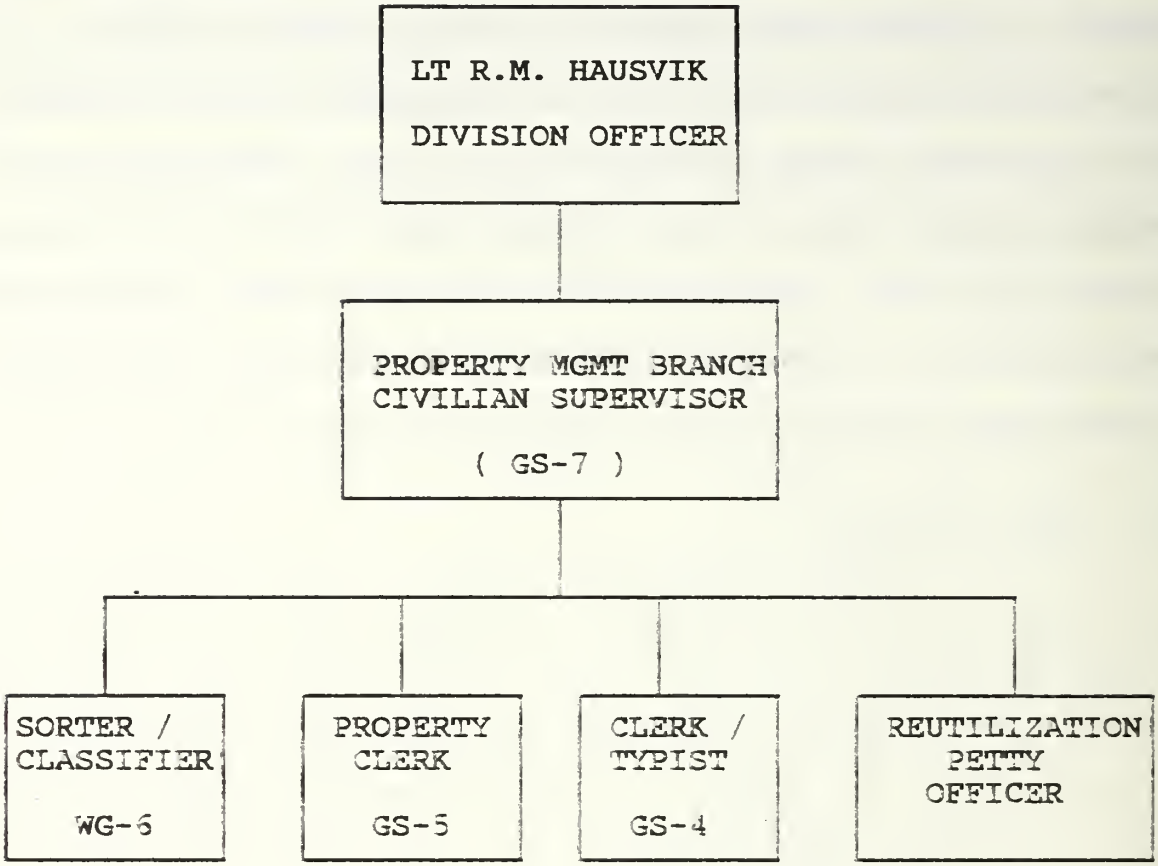



Figure 2.6 Property Management Branch Organization Chart

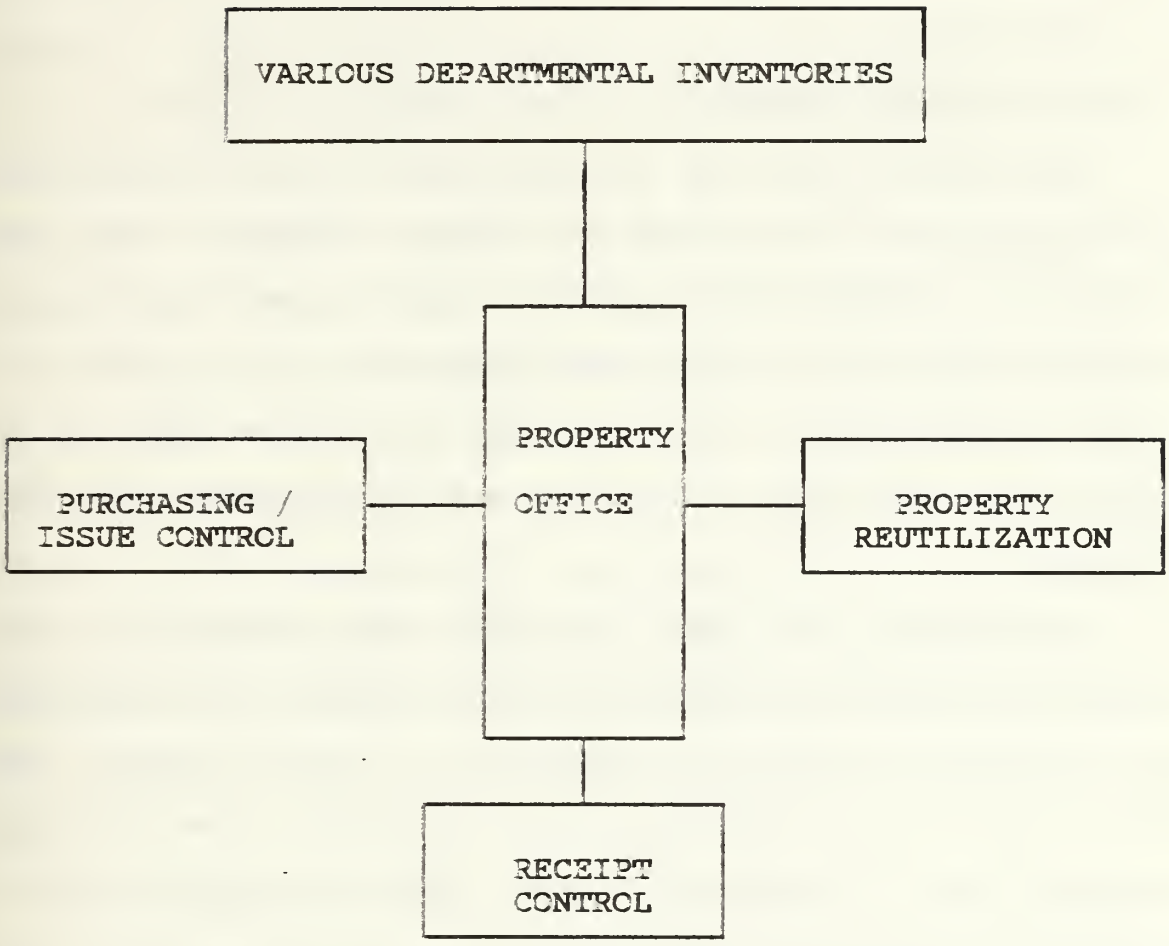



Figure 2.7 Property Office Interfaces for Minor Property

In addition to the items defined as Minor Property described in the previous chapter, the following are also considered Minor Property items:

- Highly pilferable items
- Hand tools
- Labor saving devices

The purpose of the new direction in Minor Property accountability is to provide a tracking system for the large amounts of property within these categories and to assist in reducing the loss of government property. As a result of this new direction, NPS is estimated to have over 60,000 items that will fall into the new classification for Minor Property.

Anticipated problems with the new regulation that applies to Minor Property are defining when a "system" makes the transition from Minor Property to Plant Property and, more importantly, determining how to handle items that are absorbed into an existing system. These situations can be handled in one of two ways.

One method would be to change the definition of the total cost of a "system" to include the base cost of the system plus the cost of any options or additions. The change in cost may or may not reclassify the system from Minor Property to Plant Property. This would occur when an item, such as a computer card, is added to a Minor Property component like a microcomputer and the combined cost of the

"system" exceeds $5,000. The item is no longer considered Minor Property, but is now classified as Plant Property. If the added option is later removed, dropping the computer's value once again below $5,000, then its classification reverts to Minor Property.

In order to implement this alternative the Minor Property System must be identical, or as close as possible, to the Plant Property System so that data records can be transferred from one file to another with minimal effort.

Another approach to this situation is for each individual component to have a unique identification number [Ref. 1]. When components are included in a system, the base system is not reclassified as described in the previous method. This approach would eliminate the potential requirement for systems to be reclassified, but would result in a larger number of items being carried on the inventory list.

After conducting a personal interview, the PMB requested that following attributes be included in the records dealing with Minor Plant Property [Ref. 1]:

- Account tag number
- Nomenclature of the item
- The manufacturer's model number
- The manufacturer's serial number
- The supplying vendor
- Purchase order number
- The date of the last inventory

PMB is currenly considering the possibility of tasking each department with the responsibility of conducting their own annual Minor Property inventory. These results would then be compared to the master Minor Property inventory maintained by PMB and a reconciliation made to ensure that the master file was correct and up to date.

Since no current tag numbering system exists for Minor Property, the PMB has proposed that the identification tags for Plant Property and Minor Property be the same with one exception, namely that the Plant Property identification number begin with a "PP" and the Minor Property with an "MP". PMB has further recommended that the Minor Property tags be bar coded for future use by a unified inventory system using bar code technology [Ref. 1].

The Minor Property instruction also requires that spot inventories be made by PMB personnel [Ref. 2]. These spot inventories, however, do not adjust the date for the annual inventories. All Minor Property must be inventoried annually regardless of when the last spot check was made. The criteria for the spot inventory must be kept flexible. Department inventory lists should match PMB's inventory list. Discrepancies should be reported and corrected as soon as possible. Automation of this function will greatly reduce the man-hours involved in dealing with the large volume of Minor Property items.

Whenever Minor Property requires off-base repair or service, Receipt Control prepares the documentation for the required action. Since the Minor Property will be out of the custodian's area of responsibility temporarily, the movement must be reported to the Property Management Branch for a location update. After repairs or service have been performed on the Minor Property, the item(s) will be returned to receiving to be delivered to their respective departments. Before the item(s) are returned to the department, however, the item(s) should be checked to ensure that the repair facility did not send back a substituted item(s) or lose the Minor Property tag. An authorized replacement item(s) must have its respective serial number updated and a new identification tag affixed. Receiving should perform this function [Ref. 1]. If the volume of repaired or serviced items is too great for effective handling, then the responsibility may be shifted to the custodial department.

Transfers of Minor Property within NPS, from department to department or off-base, must also be recorded to ensure that the appropriate property custodian is listed and/or deleted in the master Minor Property file. Off-base transfers such as a permanent transfer to another Command/Agency should be kept in a suspense file until the receiving Command acknowledges receipt of the material.

The Purchasing Department is responsible for ordering Minor Property. The ordering process is similar to that of Plant Property which has already been presented.

In addition to the off-base repair and servicing of items, Receipt Control is responsible for various questions dealing with Minor Property receipts. Issue control, which works out of the purchasing department, handles Minor Property questions for standard stock items prior to their receipt. Receipt Control handles questions referring to nonstandard items (open purchase) and all items once they are received.

As with Plant Property, reutilization of Minor Property is a high visibility item for this Command and will fall under the auspices of the Property Management Branch. When the department decides it has no further use for a particular item it should notify PMB who will, in turn, evaluate the item's condition for future service to the Navy. A listing of these items would serve as a published periodical for other NPS departments to review. The departments could then decide whether or not an item is to be reutilized. Those items reutilized could also replace outstanding requisitions and reduce purchasing costs. Items not deemed necessary would continue in the disposition process as described earlier.

## D. USER REQUIREMENTS

The users of a system have a critical role in the requirements specification phase of system development. Since this system is being developed for the Property Management Branch, the requirements must, and do, come from them. The following summary denotes the user requirements determined after conducting extensive interviews with all potential users of the system. These requirements cover the main concerns of the users, namely the fourth and fifth phases of the LCM, custodial duties and reutilization. These requirements are:

- Plant and Minor Property must be in a similar format.
- Software used for system development should operate on existing hardware.
- The system must reduce the tedious and complicated duplication of efforts on the property record card.
- The system should be expandable and able to interface with the other areas of LCM.
- Remote access to the database should be available.
- Departmental inventories should be able to be performed by the departments or PMB.
- A "hit list" should be developed to more effectively manage reutilization [Ref. 1].
- The system should have the capability to perform other special required inventories.
- The system should have the capability to perform required reports and/or ad-hoc requests.
- An automated conversion of the existing Plant Property file to the proposed system should be developed.

Justification for each requirement is given below.

Requiring the same format for Plant and Minor Property will reduce the amount of user training to learn the system. Further, any changes that occur which force items to change categories could be handled easily with similar formats. Finally, one report generator could produce reports from either database.

The Supply Department has already acquired hardware for system implementation. This hardware consists of a Televideo XL Microcomputer with 512k of usable RAM memory and an external XEBEC 10mb hard disk.[1] The system also contains two 5-1/4 inch disk drives, each with 360k.[2] Optional equipment on the Televideo XL include an Intel 8087 math co-processor and up to two 2400 baud communication ports.[3] The microcomputer's operating system is MS-DOS version 2.1.1.[4] Additional hardware should be considered as both

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[1]k stands for to 1024 bytes, while mb stands for 1,048,576 bytes

[2]The system was plagued with poor cooling of the primary disk drives, resulting in a malfunction of both disk drives.

[3]The communication ports require an external MODEM. The maximum information transfer rate is 2400 bits per second (BPS). BPS is synonymous with baud.

[4]MS-DOS is a disk based operating system developed by Micro Soft Computer Company.

the procurement time and cost of the hardware could be factored into the system implementation.

Reduction of effort in the tedious and complex process of filling out the property record card is a "must" due to an anticipated workload increase from 4500 items to over 65,000 items (approximately a 1500 percent increase) when Minor Property is included with Plant Property.[5] The current Plant Property system provides enough workload for one employee but with the addition of Minor Property's line items, this person would be overwhelmed. Therefore, in anticipation of the fifteen fold increase, four additional personnel will have to be added to the existing staff of one. In addition to the personnel increase, a process is required that will enable the information to be entered into the system only once before being transcribed onto the required forms by an automated process. This task should be automated in order to reduce the likelihood of errors occurring and to produce the various hard copy forms that are required. Furthermore, with more than one person performing the task, it should be formally standardized. These combined functions would contribute dramatically to

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[5]This refers to the multiple forms that are manually filled out with identical information on a recurring basis as a result of the need to send so many information/action copies throughout the command.

reducing the time and effort involved in the Acquisition process.

The long term objective is for the entire procurement lifecycle to move towards automation. To meet this end, the property system should be designed to integrate with other systems that might comprise a future "total system." Preplanning for this integration scheme would subsequently reduce the expensive and time consuming task of converting one automated system to another.

Remote electronic access to the database would facilitate other activities not located in the PMB office. Gaining access (and/or update capability) to key information concerning Plant and Minor Property would result in the following:

- A reduction of the paper flow.
- Better data entry/error checking.
- A reduction in errors created by multiple entries of shared information between required forms.

These factors would reduce the PMB workload, increase information throughput, and improve data integrity in the overall system.

The system should also be developed to allow the annual inventory to be conducted by department personnel or by members of the PMB. The flexibility of having either group perform the inventory is vital since the inventory duties will most likely change as organizational workload varies.

Reutilization of government property is the current "buzz word". Fulfilling this requirement would contribute to a reduction of DOD procurement spending and to more efficient acquisition of required items by NPS.

The ability to perform and possibly combine special required inventories would significantly reduce the workload of the personnel involved. These special inventories would include:

- Audiovisual equipment
- Labor saving devices
- Hand tools

These inventory requirements are not covered under current Plant and Minor Property instructions, but are required by other agencies.

The ability to perform required reports and/or ad-hoc requests would enable the PMB to operate in a more efficient manner and to perform additional tasks not previously assigned to PMB. The management of these infrequent tasks would greatly increase PMBs flexibility.

Automated conversion of the existing Plant Property database to the proposed PMPS database would greatly reduce the manual effort involved. This savings in manpower would result in a more efficient conversion to the new PMPS, as well as a significant one-time savings to PMB in reduced manpower costs.

## E. FEASIBILITY OF REQUIREMENTS

The development and implementation of this project for PMB is both feasible and achievable. A feasibility analysis of each requirement follows.

Requiring the same format for Plant and Minor Property input and output is a trivial task to satisfy for system implementation and can be implemented with very little difficulty.

Operation of the system utilizing existing hardware will not be feasible due to disk storage limitations. The existing hardware could be used as remote data entry points in a network environment.

A reduction in the amount of work performed per property item is feasible only through a well designed and properly implemented system. However, with current computer software technology this requirement is attainable.

The feasibility of expanding the proposed system to interface with other areas of the LCM is questionable based on the extent and direction of the expansion required. At the local Command level, other LCM functions would have to be automated in order to interface with the proposed system.

Remote Input and Output to the database is feasible only if the database host computer has a communication interface. (The Televideo XL at PMB has this capability, but is not currently installed.) Major drawbacks to remote access are:

- Database integrity
- Data security
- Simultaneous use of a database record

These drawbacks must be overcome in order to make this requirement feasible.

Departmental or PMB inventory capability is feasible only if the departments can conduct their inventories using the same computer software environment as PMB. If not, then a manual system is the only alternative.

It is possible, and relatively simple, to develop an effective reutilization hit list in the proposed system through record manipulation.

To be able to perform audits other than those required by applicable Plant and Minor Property instructions, identification fields need to be appended to the item's record in order to identify those items requiring a special inventory. This can be readily accomplished with current DBMS capabilities.

# III. EVALUATION OF ALTERNATIVES

## A. IDENTIFY ALTERNATIVES

The solutions needed to solve the Property Management Branch's Plant and Minor Property System problems can be grouped into four general alternatives:

- Maintain the Status Quo
- Develop a Manual Solution
- Automate some of the Solution
- Totally Automate the Solution

When considering the automated PMBs PMPS development alternatives, the following five components of a business computer system should be explored [Ref. 4]:

- Data
- Hardware
- Programs
- People
- Procedures

The three automated alternative components that will be covered in the most detail are data, hardware, and programs. The fact that PMB has personnel already on board and is developing their own standard operating procedure (SOP) will limit the discussion in the remaining two areas.

## B. EVALUATION

Alternatives will be evaluated on a cost/benefit and subjective basis. Cost data will be limited to items currently on the market or to previously submitted software development contract bids. The first alternative to the problem is to maintain the status quo. The costs of course, will be zero for system acquisition since Minor Property has no current system, and a system is currently in place for Plant Property.

The next alternative is to provide a manual system. The cost alone would rule out this alternative since fifteen additional GS-5 rated property clerks would be required to perform the manual extension of the existing Plant Property system to Minor Property.[1]

The third alternative would be to automate a portion of the process. At present, this alternative is more feasible than total automation since the current LCM process at NPS is a manual one. For this particular alternative, each of the five components of a business computer system will be discussed in more detail.

---

[1]The figure of 15 clerks is derived by scaling the work that one clerk does in dealing with 4500 items to a total projected work load of over 65,000 items. A GS-5's average annual salary (excluding fringe benefits) is $ 15,000. Fifteen clerks' salaries would total $ 225,000.

1. Data

Data for the system is the first component. (Exact data requirements will be discussed in later chapters.) Each data field added to a Plant or Minor Property record must have a valid reason for existing and must be in a compact and readable form. With a projected volume of 65,000 records, unnecessary data fields create a tremendous increase in the workload of the PMB staff and place an unnecessary burden on the data storage requirements of the proposed system hardware. On the other hand, failure to include required data fields may result in failing to meet higher level requirements or having to restructure the database later. [Ref. 2]

A sufficient amount of data in the database also reduces the time required to complete the DD 1342. A report generation capability can print the entire form with its required information and eliminate the current practice of filling out the DD 1342 manually two or three times per item acquisition [Ref. 1].

2. Hardware

The Televideo XL will not be able to handle the projected processing requirements for the proposed system. The Plant Property database currently uses approximately 112 bytes of storage per record. If the proposed system is given 132 bytes per record, the projected 65,000 records would consume approximately 8.6mb of storage. With the

records indexed, another 10mb of storage would be required for each index (or sort) of the proposed PMPS database. Based on this size projection, this design team recommends a minimum of 40mb of storage with 10mb of backup storage. A more detailed sizing of the proposed system and a further discussion of hardware specifications is presented in the chapter on System Specification. (Chapter 6)

The Televideo XL can support up to 30mb of storage per drive which is sufficient for system development, backup storage, and system training purposes. Future system expansion will be feasible since compatible systems utilizing either the Intel Corporation's 80286 or 80386 processor family will run the developed software for the Intel 8086 processor family, to which the Televideo XL processor belongs. Both 80286 hardware with a maximum storage of 80mb per drive, and 80386 hardware with a maximum storage of 130mb per drive processor families can support the projected size of the proposed system. The execution time for a 80386 processor machine is ten times that of a 8086 processor. This feature is desirable for system implementation, since the projected workload of the proposed system will slow the Televideo XL processing time to an unacceptable level.

3. Programs

Software programs for the proposed system may be obtained in the following ways:

- Develop from the ground up
- Use a current application program and detail it to the PMB's specific needs
- Have a vendor develop and deliver a turn-key system

System development from the ground up consists of using a particular high level language (such as Pascal, C, or Ada) and writing the code to perform each of the required processes. This method generally gives the best overall results in program effectiveness and efficiency, but will consume large amounts of development time and require PMB to hire or contract a programmer.

The next method uses existing software products (commercial or DOD) to develop the proposed system. A brief non-exhaustive list of suitable products is presented in Figure 3.1. The main advantage of this method is that a lower level of computer literacy is required for system development than for the previous one. In addition, maintenance of the system would be much easier to perform.

The last method is for a vendor to develop and install the complete system. While the most costly in regards to direct costs, this system is the easiest one for the PMB to implement.[2]

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[2]One vendor, Control Ware, Inc. of Seattle, Washington, has presented PMB with a proposal for such a system at a cost of $1675. The proposal would have to be modified (at additional cost) to suit the requirements of the PMB. A copy of this proposal is located in the PMB office for reference.

| Product | Vendor |
|---|---|
| Dataease | Software Solutions |
| Nutshell | Leading Edge |
| Knowledge Man | Micro Data |
| dBASE III PLUS | Ashton-Tate |
| Power Base | GMS |
| Infostart | Micro Pro |
| Revelation | Cosmos |
| Infostar | Micro Pro |
| Rbase 5000 | MicroRim |
| Smart Data Management | Innovative |
| Personal Pearl | Pearlsoft |
| Metafile | Spensor-Based |
| Omnibase | Conceptual |
| 10-Base | Fox |
| Listmaker | Readers Digest |
| B.O.S.S | American Plan |
| Easydata | Norell |
| VAX TeamData | Digital Equipment Corp. |
| Paradox | Ansa Software |
| PC/Focus | Information Builder |
| Reflex 1.1 | Borland International |

Figure 3.1 Database Products Considered for the PMPS

A major drawback to this "turn-key" system approach is that it limits flexibility. Multiuser capability and enhancements will most likely have to be implemented by the vendor at a negotiated price. Vendor survivability and enhancement prices will greatly affect the long term costs and benefits of this system.

4. People

PMB personnel comprise the fourth component. Personnel will have to become acquainted with the new system once it is implemented. Training from the user manuals and/or the developer should be sufficient to ensure compatibility between the proposed system and the user. Future requirements might dictate that an individual with a moderate level of computer literacy be sought to assist in any desired software and/or hardware enhancements to the proposed system.[3]

5. Procedures

The last component involves the procedures for the system. No matter how much money is spent on system development and/or acquisition, the user must know how to use the system correctly. A **WELL DOCUMENTED** user's manual is a **MUST** for the proposed system. In addition, enhancements to the system must be reflected in system documentation changes.

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[3]Other ways to increase computer literacy are by auditing selected courses at NPS, through self study, and by taking commercial courses.

Over one half of commercial software companies fail to add these changes to their in-house software systems, thus resulting in reliance on operator knowledge about changes in the system. Unfortunately this remains accepted policy until the operator retires or transfers to another position. By this time, the system has a user's manual that does not reflect the current enhanced version, plus a new operator who, along with the organization, is left with no "concrete" evidence of these changes.

## C. EVALUATION CONCLUSION

After consideration of the above mentioned requirements and alternatives, one suitable approach is to develop the system on the existing hardware with an external hard disk utilizing commercial Database Management System (DBMS) software with program development performed in-house. Initial sizing considerations indicate that the existing hardware will be unable to fully implement the proposed PMPS. Therefore, it is recommended that a separate study be conducted as soon as possible to identify appropriate hardware for full and efficient system implementation, and to coincide with system development. This recommendation was reached for the following reasons:

- In-house development using a commercial DBMS is within the scope of the command [Ref. 5].
- Greater flexibility of the system is achieved from in-house development.
- Commercial DBMS products are capable of handling the amount of data required [Ref. 6].

- The costs of enhancements for turn-key systems is not worth the benefit of outside development.
- The coding and improved hardware procurement are independent of each other provided that the selected DBMS product and hardware are compatible.

Automation of the PMPS using the above criteria will satisfy the user requirements presented in the previous chapter. DBMS products allow for data fields to be easily added or removed. Additionally, since all academic departments at NPS have microcomputers compatible with the MS-DOS standard, downloading and uploading of specific modules can be accomplished. This reduces both the personnel workload and administrative requirements. Finally, portable compatible computer hardware is also available and can enhance future flexibility in the inventory requirements area.

# IV. FUNCTIONAL SPECIFICATION

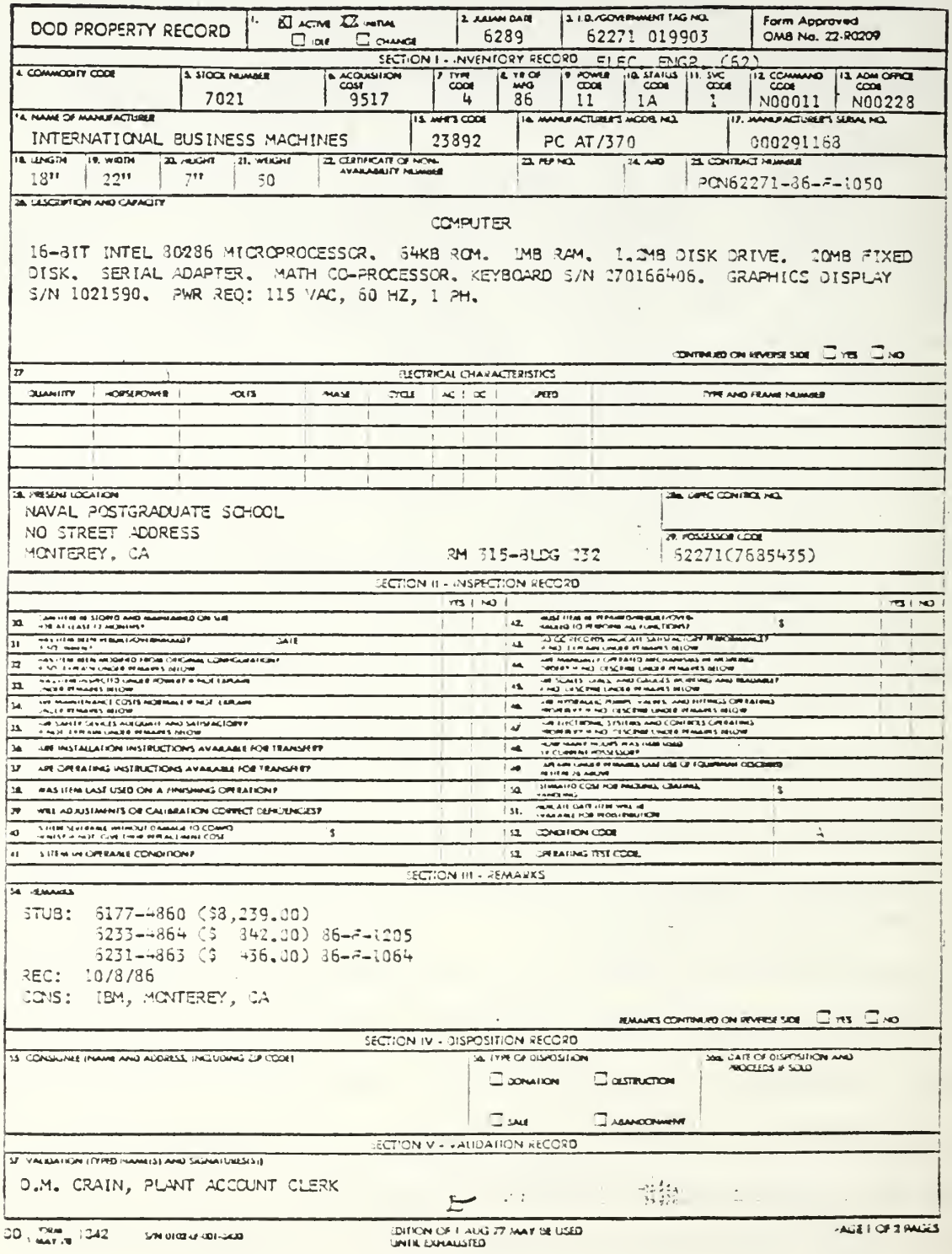
## A. OVERVIEW

The overall logical design of the proposed system is similar to the existing Plant Property system. User familiarity is the main driving force behind this similarity. The three main modules for the proposed PMPS are Acquisitions, Dispositions, and Ad-Hoc Reports.

The functional design for the Acquisitions module is to build a DOD Property Record Card (Figure 4.1). The reasoning behind this approach is to fulfill the following user requirements:

- Eliminate repetitive manual processing of the DD 1342.
- Utilize the information contained on the DD 1342 to meet other Ad-hoc requirements.
- Provide efficient automation of the inventory process.
- Provide automated data entry for significant portions of the disposition process.

The functional design for the Dispositions module is to utilize the information already obtained by the Acquisitions module whenever possible. The justification for this approach is to reduce the manpower and related costs of inputting information already available to the proposed PMPS. This information is used in the following situations:



DOD PROPERTY RECORD

1. ☒ ACTIVE ☒ INITIAL ☐ IDLE ☐ CHANGE
2. JULIAN DATE: 6289
3. I.D./GOVERNMENT TAG NO.: 62271 019903
Form Approved OMB No. 22-R0209

SECTION I - INVENTORY RECORD ELEC ENGR (62)

| 4. COMMODITY CODE | 5. STOCK NUMBER | 6. ACQUISITION COST | 7. TYPE CODE | 8. YR OF MFG | 9. POWER CODE | 10. STATUS CODE | 11. SVC CODE | 12. COMMAND CODE | 13. ADM OFFICE CODE |
|---|---|---|---|---|---|---|---|---|---|
| | 7021 | 9517 | 4 | 86 | 11 | 1A | 1 | N00011 | N00228 |

| 14. NAME OF MANUFACTURER | 15. MFR'S CODE | 16. MANUFACTURER'S MODEL NO. | 17. MANUFACTURER'S SERIAL NO. |
|---|---|---|---|
| INTERNATIONAL BUSINESS MACHINES | 23892 | PC AT/370 | 000291168 |

| 18. LENGTH | 19. WIDTH | 20. HEIGHT | 21. WEIGHT | 22. CERTIFICATE OF NON-AVAILABILITY NUMBER | 23. REP NO. | 24. AMD | 25. CONTRACT NUMBER |
|---|---|---|---|---|---|---|---|
| 18" | 22" | 7" | 50 | | | | PCN62271-86-F-1050 |

26. DESCRIPTION AND CAPACITY

COMPUTER

16-BIT INTEL 80286 MICROPROCESSOR. 64KB ROM. 1MB RAM. 1.2MB DISK DRIVE. 20MB FIXED DISK. SERIAL ADAPTER. MATH CO-PROCESSOR. KEYBOARD S/N 270166406. GRAPHICS DISPLAY S/N 1021590. PWR REQ: 115 VAC, 60 HZ, 1 PH.

CONTINUED ON REVERSE SIDE ☐ YES ☐ NO

27. ELECTRICAL CHARACTERISTICS

| QUANTITY | HORSEPOWER | VOLTS | PHASE | CYCLE | AC | DC | SPEED | TYPE AND FRAME NUMBER |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

28. PRESENT LOCATION
NAVAL POSTGRADUATE SCHOOL
NO STREET ADDRESS
MONTEREY, CA RM 315-BLDG 232

28a. DEPC CONTROL NO.

29. POSSESSOR CODE
62271(7685435)

SECTION II - INSPECTION RECORD

| | | YES | NO | | | YES | NO |
|---|---|---|---|---|---|---|---|
| 30. | [illegible] STORED AND MAINTAINED ON SUB-HAND RECEIPT? | | | 42. | [illegible] | | |
| 31. | [illegible] | | | 43. | [illegible] | | |
| 32. | [illegible] | | | 44. | [illegible] | | |
| 33. | [illegible] | | | 45. | [illegible] | | |
| 34. | [illegible] | | | 46. | [illegible] | | |
| 35. | [illegible] | | | 47. | [illegible] | | |
| 36. | ARE INSTALLATION INSTRUCTIONS AVAILABLE FOR TRANSFER? | | | 48. | [illegible] | | |
| 37. | ARE OPERATING INSTRUCTIONS AVAILABLE FOR TRANSFER? | | | 49. | [illegible] | | |
| 38. | WAS ITEM LAST USED ON A FINISHING OPERATION? | | | 50. | ESTIMATED COST FOR PROPOSED CHANGES | $ | |
| 39. | WILL ADJUSTMENTS OR CALIBRATION CORRECT DEFICIENCIES? | | | 51. | INDICATE DATE ITEM WILL BE AVAILABLE FOR REDISTRIBUTION | | |
| 40. | [illegible] | $ | | 52. | CONDITION CODE | A | |
| 41. | ITEM IN OPERABLE CONDITION? | | | 53. | OPERATING TEST CODE | | |

SECTION III - REMARKS

54. REMARKS

STUB: 6177-4860 ($8,239.00)
6233-4864 ($ 842.00) 86-F-1205
6231-4863 ($ 436.00) 86-F-1064
REC: 10/8/86
CONS: IBM, MONTEREY, CA

REMARKS CONTINUED ON REVERSE SIDE ☐ YES ☐ NO

SECTION IV - DISPOSITION RECORD

| 55. CONSIGNEE (NAME AND ADDRESS, INCLUDING ZIP CODE) | 56. TYPE OF DISPOSITION | 56a. DATE OF DISPOSITION AND VOUCHER # SOLD |
|---|---|---|
| | ☐ DONATION ☐ DESTRUCTION ☐ SALE ☐ ABANDONMENT | |

SECTION V - VALIDATION RECORD

57. VALIDATION (TYPED NAME(S) AND SIGNATURE(S))
D.M. CRAIN, PLANT ACCOUNT CLERK

DD FORM 1342 S/N 0102-LF-001-3400 EDITION OF 1 AUG 77 MAY BE USED UNTIL EXHAUSTED PAGE 1 OF 2 PAGES

Figure 4.1 DOD Property Record Card

- When creating a list of items for Command reutilization.
- When simple and quick methods are used to process the paperwork for reutilization of items by this Command.
- When automating portions of the disposition process.

The third main module, Ad-Hoc Reports, is used to generate unique and/or seldom used reports. The application software can be used directly for these reports, but this module relieves the operator from requiring a detailed knowledge of the application software. The operator will also not have to perform other undesirable functions such as:

- unintentional record deletion
- improper record modification
- inadvertent record creation

This module will not replace the need for operators becoming familiar with the application software, but it will reduce the chance of an undesirable traansaction occurring.

The functional design of the proposed PMPS moves an existing system that is understood by PMB personnel to a flexible updated system which will greatly increase the efficiency and effectiveness of PMB operations.

## B. DATA FLOW DIAGRAMS

The data flow diagram presented in Figures 4.2, 4.3, and 4.4 are the three logical modules that comprise the proposed PMPS. These modules do not depend on the selected hardware, software, data structure, or file organization selected for

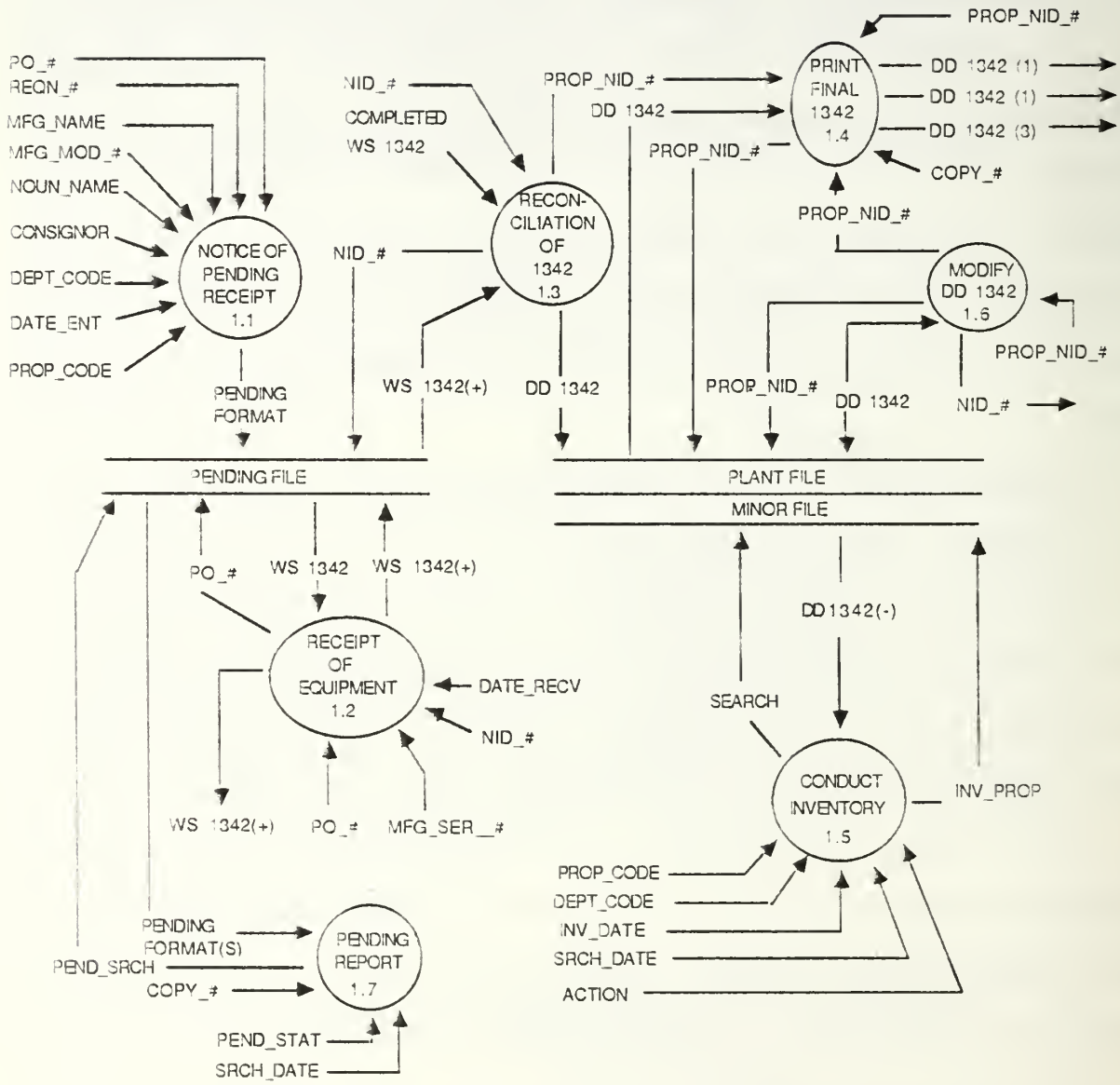



Figure 4.2 Proposed Acquisition Process

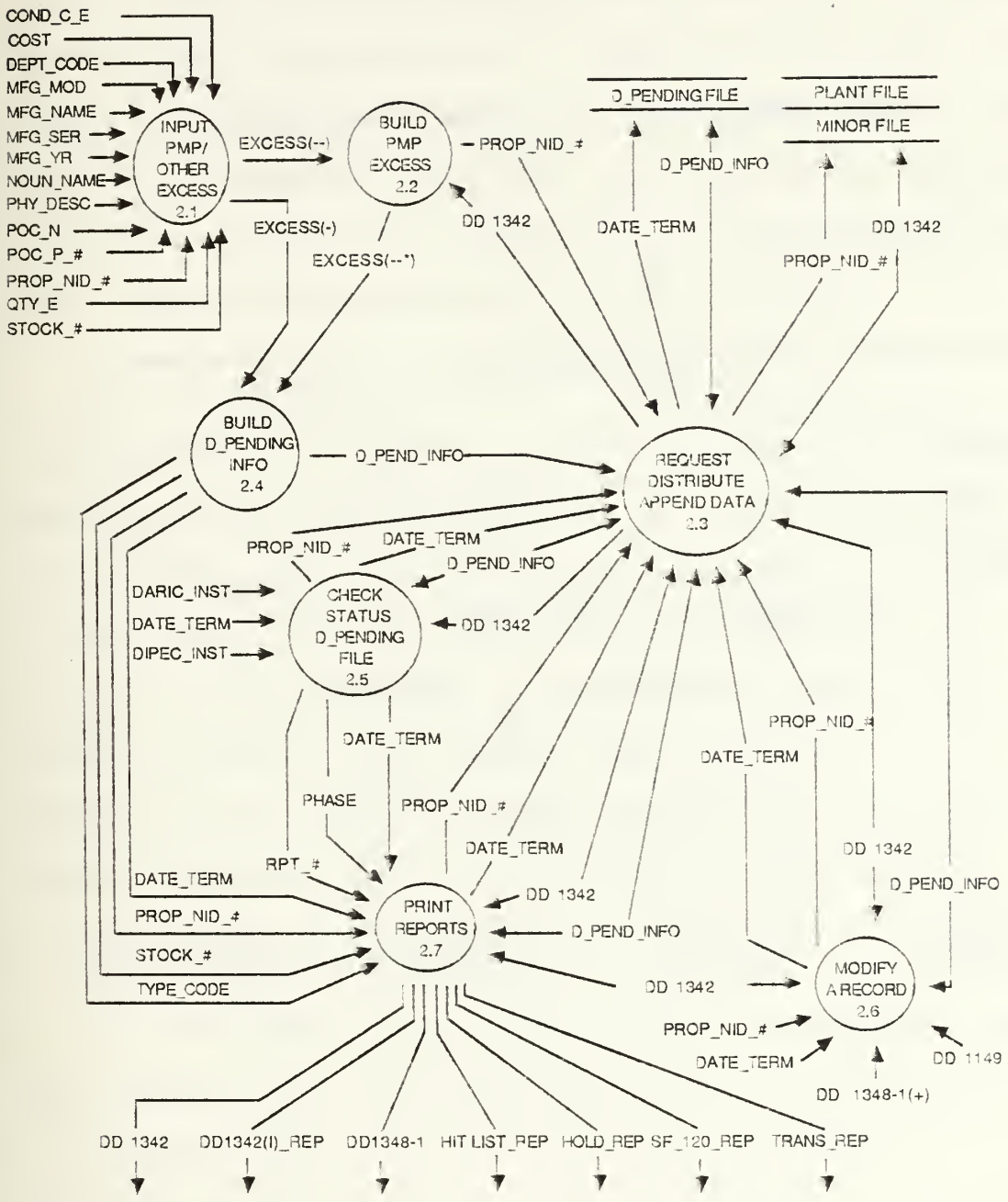



Figure 4.3 Proposed Disposition Process

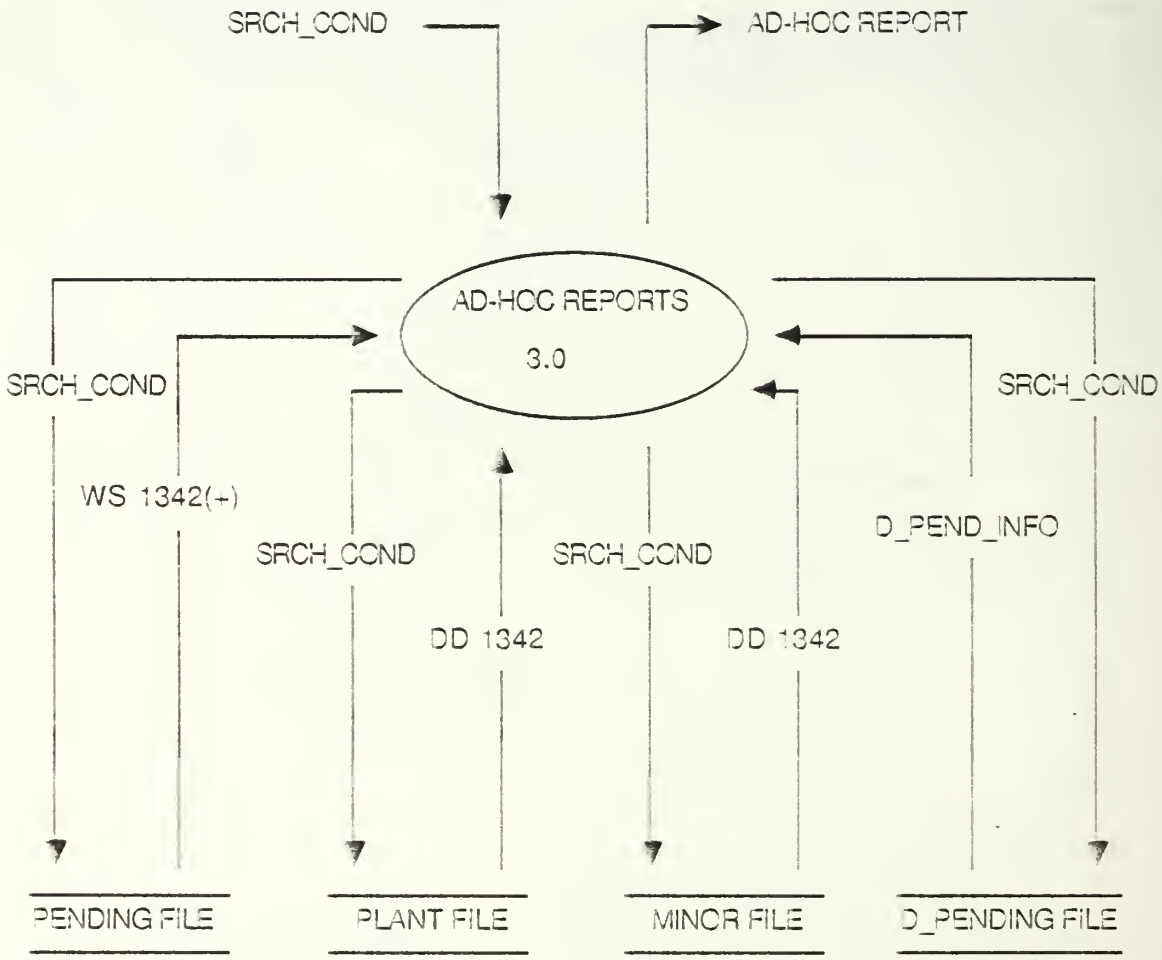



Figure 4.4 Proposed Ad-Hoc Reports Process

the proposed system. The graphics presented in the data flow diagram are intended to provide an understandable logical model of the proposed PMPS [Ref. 7]. A detailed logical model is presented in Appendix A for each module depicted in Figures 4.2 and 4.3. The Ad-Hoc Reports module was not decomposed due to its relatively simplistic structure. A narrative description of the proposed logical model is presented in section D of this chapter.

## C. DATA DICTIONARY

The data dictionary is a collection of information describing each data element used in the proposed PMPS. The data element is a unit of data that cannot be decomposed further [Ref. 8]. In order to reduce user confusion when trying to understand the new system, the names of the data elements used by this design team were kept as close as possible to the familiar names associated with the current system. The data dictionary is located in Appendix B.

## D. LOGICAL PROCESS DESCRIPTION

The functional description of the modules that compose the proposed PMPS is divided into three major categories:

- Acquisitions
- Dispositions
- Ad-Hoc Reports

The overall process for Acquisitions may be followed by reviewing Figure 4.2. The overall process for Dispositions

can be found by reviewing Figure 4.3. Figure 4.4 should be utilized when reviewing the Ad-Hoc Reports section. These descriptions are presented by order of module number.

1. Acquisitions

1.1 NOTICE OF PENDING RECEIPT starts the acquisition process once PMB is formally notified of the pending procurement of an item that will be placed in the PMPS. The documents used for this notification include:

- Material Inspection and Receiving Report (DD 250)
- Intent to Procure (DD 1155)
- Awards/Contract (SF 26)
- Requisition System Document/Manual (or STUB) (DD 1348 6 part)

The required information is written to the PENDING file for use in the next module.

1.2 RECEIPT OF EQUIPMENT is the next step in the proposed acquisition process. This module takes the information gathered in the preceding module and adds additional information in order to print out a partially completed DD 1342. The 1342(+) is stored back in the PENDING file to be accessed by Naval Identification Number (NID) for future reference. The hard copy of this partially completed DD 1342 is sent with the item to the department for completion. The print out of the partially completed DD 1342 and its subsequent manual completion will become unnecessary once future enhancements have been made to the system. These

enhancements will enable the information to be electronically entered directly into the PMPS database.

1.3 RECONCILIATION OF 1342 takes the manually completed DD 1342 worksheet and reconciles it against the information in the PENDING file. Additional information and/or corrections are made to the electronic DD 1342 which is then stored by NID into the PLANT or MINOR file depending on the item's property code.

1.4 PRINT FINAL 1342 prints the required number of copies for distribution in the following manner:

- 3 copies for NSCO Oakland
- 1 copy for the department
- 1 copy for PMB

The hard copy of the DD 1342 is kept at PMB to serve as a backup to the electronic copy and is handy for reference in areas where the proposed system is inaccessible. PMB may use this module to print additional copies of the DD 1342. The DD 1342 is found in the PLANT or MINOR file by the property code and NID of the item.

1.5 CONDUCT INVENTORY maintains required inventory records. A search date is entered to retrieve records that were inventoried prior to a given date. The department and property code are also used as search criteria to select and print an inventory list. After the inventory is completed, the inventory date is updated for each item found and a list is printed out of those items "not found." If desired, hard

copies of the inventory may be kept for audit purposes. Future enhancements using bar code technology would reduce the workload associated with the inventory process. In addition, special inventories may be accomplished by specifying the correct property code to the system.

1.6 MODIFY DD 1342 allows the PMB office to correct errors in the DD 1342 due to incorrect data input that will undoubtedly occur. This module also allows for changes in the DD 1342 to be accomplished with a minimum of effort. An example of these changes are:

- Intra command reutilization
- Repair facility sending back replacement items resulting in a "new" DD 1342
- Changes to the PMPS item

Printing out the DD 1342 before and after the changes are made will ensure accuracy in the change procedure while satisfying other administrative requirements.[1]

1.7 PENDING REPORT module produces two types of reports. The first report concerns items indicated for procurement that have been in the system prior to a given date. PMB can then use this report to help determine the various reasons that might may have caused the procurement

---

[1]One requirement is that when a "new" DD 1342 is created in this module, the "old" DD 1342 and 3 hard copies of the "new" DD 1342 must be sent to NSCO Oakland.

to be cancelled or otherwise delayed. The report is a useful tool to keep PMB up to date on the procurement status of PMPS items. The second type of report is concerned with items that have been received by the command and with the associated DD 1342 worksheet that has not been returned to PMB. This report will provide an automated tool to help shorten the turn-around time between equipment arrival and the official DOD Property Record Card that has been sent to higher authority (NSCO).

2. Dispositions

2.1 INPUT PMP/OTHER EXCESS. This module is accessed when a Memo-E is received for processing. If the Memo-E contains a PROP_NID_# the excess item referred to is either a Plant or Minor Property item and is passed to Module 2.3 for further processing. Otherwise, the item(s) are treated as "OTHER" property, representing anything that is not Plant or Minor Property, and are passed as an EXCESS(-) to module 2.4. This module acts as an initial screening device to classify what type of property is being processed.

2.2 BILLED PMP EXCESS is utilized to combine the inputted Plant and Minor excess data from module 2.1 (EXCESS(--)) with the corresponding DD 1342 from module 2.3. This information is then combined to form a new record called the EXCESS(--*) which is subsequently passed to module 2.4 for processing.

2.3 REQUEST STORE DISTRIBUTE UPDATE DATA retrieves, distribute and update record(s) from either the Plant and Minor Property files based on the PROP_NID_# received (primary key for these files) or from the D_PENDING file based on the DATE_TERM provided (primary key for this file). Once the record(s) are obtained they can be distributed as whole record(s) or as field(s) to the requesting module. The updated record(s) replace the file copy with the existing (modified) copy of the record(s).

2.4 BUILD PENDING INFO receives either a EXCESS(-) and/or the EXCESS(--*), to which it performs the following:

- adds variables
    - append DATE_ENT_D equal to SYSTEM DATE (Julian)
    - append DATE_TERM equal to DATE_ENT_D plus SEQ_#
    - append PHASE = R signifying available for reutilization
- checks to see if equipment type is either IE/ADPE/OTHER
    - TYPE_CODE = IE_C_REQ
        - append IE_SCR_P to DATE_TERM (90 days)
        - issues request to print DD 1342(I)_REP
    - STOCK_# = STK_#_REQ (7,XXX)
        - append ADPE_SCR_P to DATE_TERM (201 days)
        - inputs RPT_# equal to UIC plus DATE_ENT_D
    - else OTHER
        - append DATE_TERM equal to R_SCR_P
        - issues request to print HIT_LIST_REP

- all record(s) and field(s) are combined, thus creating the D_PEND_INFO, and appended to the D_PENDING file

2.5 CHECK STATUS D_PENDING FILE. This module processes disposition instructions from either DARIC or DIPEC:

- DATE_TERM = INST_D_DATE, the date that the equipment can be disposed of locally or transferred.
- PHASE = its respective INST_ACT
  - DT = disposition for transfer
  - DL = disposition locally (DRMO)
  - DLH = disposition locally but awaiting confirmation or reutilization. Confirmation would be indicated by a signed DD 1348-1 and reutilization would be indicated by the new accepting/receiving department submitting a COMPLETED WS 1342.
  - DTH = transfer but awaiting confirmation of delivery. Acceptance of transferred equipment is acknowledged when a completed DD 1149 is received.
- Checks to see if any D_PENDING file records are past their reutilization screening period.
  - DATE_TERM $\leq$ SYSTEM_DATE
    - PHASE = DL
- Once these two conditions are set/checked the module checks PHASE to see if any additional reports need to be generated.
  - PHASE = DL
    - issues request to print DD 1348-1
  - PHASE = DLH
    - issues request to print HOLD_REP
  - PHASE = DT
    - issues request to print TRANS_REP

- PHASE = DTH

    - issues request to print HOLD_REP

- The fields processed are appended to their respective records/files.

2.6 MODIFY A RECORD makes changes to either the D_PENDING file records or one of the Property file records. This function is useful for changing the status of a record due to its:

- disposition

    - transfer

    - locally

- reutilization within the command which requires changes to the DD 1342

    - error correction required after data input

    - deletion of a field or record from any of the file accessed by the disposition subsystem.

The following is a more detailed breakdown of the above mentioned functions.

- Dispositions complete:

    - DD 1149 received indicating that a transferred piece of equipment has been received by the intended command, and that they have accepted custody.

    - DD 1348-1 returned by DRMO with signature indicating that they have accepted custody of a piece of equipment sent to them for disposal.

    - issue request to print old DD 1342

    - delete record from the D_PENDING file and/or the PLANT or MINOR files

- Reutilization:
    - receive request for equipment by DATE_TERM
    - verify PHASE = R
    - change information such as location from old DEPT_CODE to new, etc.
    - the processed records/fields are updated to their respective files.
    - issue request to print modified DD 1342, when applicable
    - delete record from the D_PENDING file
- Error Correction:
    - retrieve record
    - change records/fields
    - the records/fields processed are updated to their respective files
    - issue request to print modified DD 1342, if this is the record being changed

2.7 PRINT REPORTS. This module is invoked each time a report request is issued. The type of report is determined by the following:

- receive PHASE = R
    - print HIT_LIST_REP
- receive PHASE = DL
    - print DD 1348-1
- receive PHASE = DLH
    - print HOLD_REP
- receive PHASE = DT
    - print TRANS_REP

- receive PHASE = DTH
    - print HOLD_REP
- receive TYPE_CODE = IE_C_REQ
    - print DD 1342(I)_REP
- receive STOCK_# = STK_#_REQ plus RPT_#
    - print SF_120_REP
- receive DD 1342
    - print DD 1342

Future report requirements may easily be added to this module.

3. Ad-Hoc Reports

3.0 AD-HOC REPORTS module is used to generate special and/or seldom used reports required by PMB. The user selects the file to be utilized and enters the search conditions for the report. The user then has the choice of a screen display and/or hard copy printout of the report. The search conditions may include any fields found in the file. A list of each file and its associated fields may be found at the end of Appendix B.

# V. DETAIL DESIGN

## A. OVERVIEW

The proposed PMPS is designed as a menu driven system with each menu item being devoted to a major function. The programmer should maintain no more than nine menu selection items on a screen at one time. Any more than this will lead to a poor human interface.

There exists a close relationship between the functional specifications developed in the previous chapter and in the detail design presented in this chapter and associated appendices. Differences will undoubtedly exist, however, due to the transition between the logical data flows and the physical specification for program coding. A cross reference chart for Acquisitions (Figure 5.1) and for Disposition (Figure 5.2) is used to correlate the DFDs used in the functional specification with the detail design. A description of the detail design of the proposed PMPS is presented in sections B and C of this chapter.

## B. HIERARCHY CHARTS

The proposed program structure is represented in the hierarchy charts in Appendix C. These charts start with the overall structure of the proposed PMPS. The Acquisition side is examined first while the Disposition side follows

with the Ad-Hoc Reports module concluding the Appendix. The hierarchy charts are to be used as a guide for the programmer to follow during program coding. An INPUT/PROCESS/OUTPUT (IPO) chart exists for each module depicted on the hierarchy charts.

## C. INPUT/PROCESS/OUTPUT CHARTS

The IPO chart is used to describe the inputs to, the outputs from, and the process performed by the module. The data dictionary in Appendix B defines the input and output structures used in the IPO charts. The algorithm descriptions in the process section define the actual proposed module process. If local data elements were identified by this design team then they, too, are listed. The programmer should use the IPO chart as a guide in writing the proposed PMPS code. The IPO charts are listed in Appendix D and are in the order depicted by the hierarchy charts used in Appendix C.

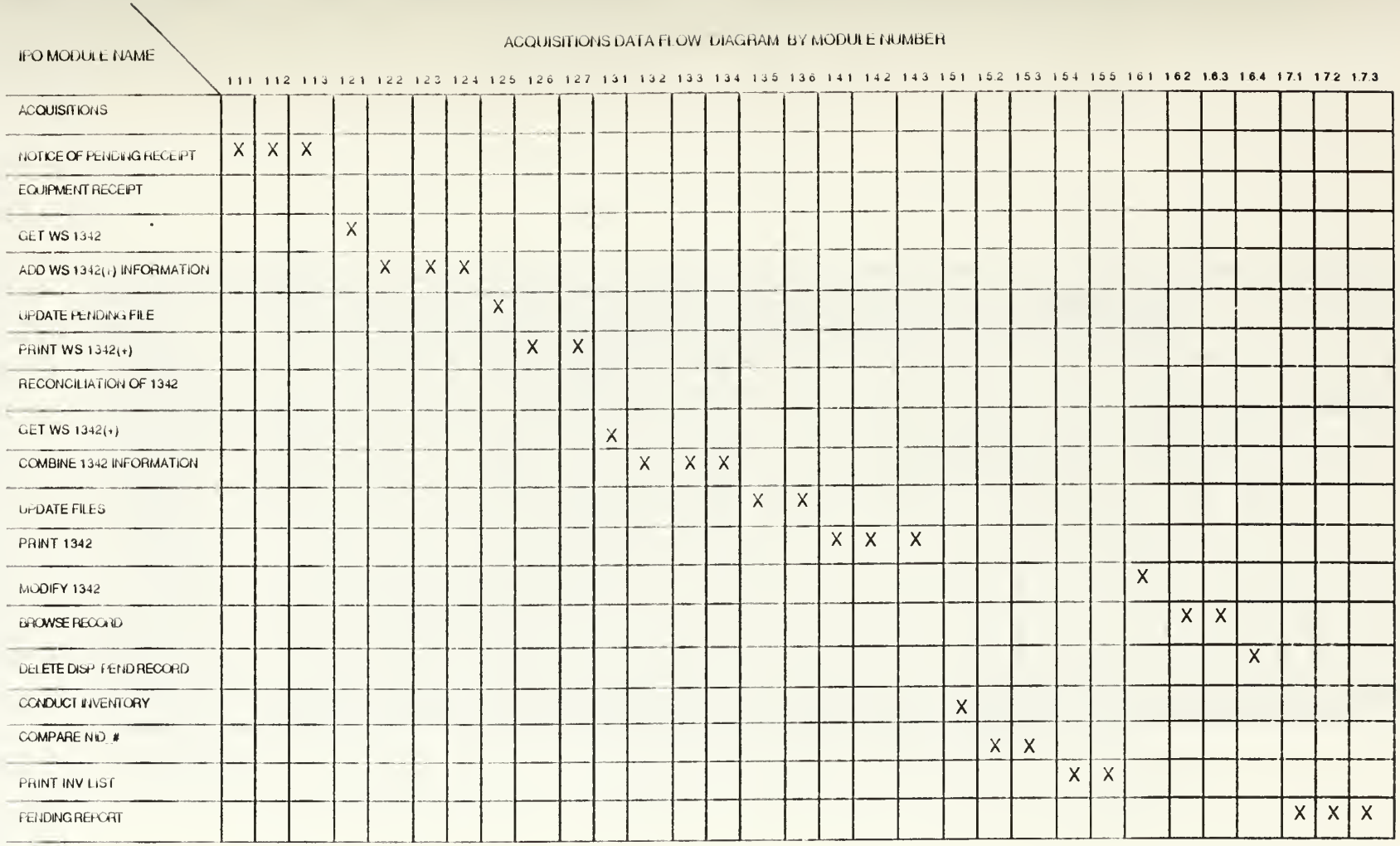

IPO MODULE NAME
ACQUISITIONS DATA FLOW DIAGRAM BY MODULE NUMBER
111 112 113 121 122 123 124 125 126 127 131 132 133 134 135 136 141 142 143 151 152 153 154 155 161 162 163 164 171 172 173
ACQUISITIONS
NOTICE OF PENDING RECEIPT
EQUIPMENT RECEIPT
GET WS 1342
ADD WS 1342(+) INFORMATION
UPDATE PENDING FILE
PRINT WS 1342(+)
RECONCILIATION OF 1342
GET WS 1342(+)
COMBINE 1342 INFORMATION
UPDATE FILES
PRINT 1342
MODIFY 1342
BROWSE RECORD
DELETE DISP PEND RECORD
CONDUCT INVENTORY
COMPARE NID_#
PRINT INV LIST
PENDING REPORT

Figure 5.1 Acquisitions Cross-Reference Chart

DISPOSITIONS DATA FLOW DIAGRAM BY MODULE NUMBER
I/O MODULE NAME
211 212 213 2131 2132 221 222 231 232 233 241 2411 2412 2413 2414 2415 2416 2417 242 2421 24211 24212 2422 24221 24222 24223 243 244
DISPOSITIONS
PROCESS DAILY TRANSACTIONS
INPUT TRANSACTIONS
INPUT PLANT/MACHINE EXCESS( )
INPUT OTHER EXCESS( )
UPDATE PLANT FILE
UPDATE TYPE CODE
ADD VARIABLES
CHECK HEADER/OTHER
STORE DATA
DISPOSITION MANAGEMENT
MANUAL STATUS OVERRIDE
INPUT DISPOSITIONS
CLOSE PHASE
MODIFY TYPE CODE

Figure 5.2 Disposition Cross-Reference Chart

DISPOSITIONS DATA FLOW DIAGRAM BY MODULE NUMBER

| IPO MODULE NAME | 231 | 232 | 233 | 251 | 252 | 253 | 254 | 255 | 256 | 2561 | 25611 | 2562 | 25621 | 267 | 261 | 2611 | 2612 | 2613 | 262 | 263 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DISPOSITIONS | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| PROCESS DAILY TRANSACTIONS | | | | | | | | | | | | | | | | | | | | |
| INPUT TRANSACTIONS | | | | | | | | | | | | | | | | | | | | |
| INPUT PLANT MINOR EXCESS( ) | | | | | | | | | | | | | | | | | | | | |
| INPUT OTHER EXCESS( ) | | | | | | | | | | | | | | | | | | | | |
| BUILD PENDING FILE | | | | | | | | | | | | | | | | | | | | |
| BYPASS PAP RECORD | | | | | | | | | | | | | | | | | | | | |
| ADD VARIABLES | | | | | | | | | | | | | | | | | | | | |
| CHECK HEADER/OTHER | | | | | | | | | | | | | | | | | | | | |
| STORE DATA | | | | | | | | | | | | | | | | | | | | |
| DISPOSITION MANAGEMENT | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| MANAGE STAGED PENDING FILE | | | X | X | X | X | X | X | X | X | X | X | X | X | | | | | | |
| INPUT DISTRIBUTIONS | | | | X | X | X | | | | | | | | | | | | | | |
| CHECK PHASE | | | | | | | | | X | X | X | X | X | | | | | | | |
| MODIFY RECORD | X | X | X | | | | | | | | | | | X | X | X | X | X | X | X |

Figure 5.2 Disposition Cross-Reference Chart (Continued)

DISPOSITIONS DATA FLOW DIAGRAM BY MODULE NUMBER

| IPO MODULE NAME | 271 | 272 | 2721 | 27211 | 27212 | 2722 | 27221 | 27222 | 27223 | 27224 | 273 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| DISPOSITIONS | | X | X | X | X | X | X | X | X | X | X |
| PROCESS DAILY TRANSACTIONS | | X | X | X | X | X | X | | | | X |
| INPUT TRANSACTIONS | | | | | | | | | | | |
| INPUT PARAMETER EXCESS( ) | | | | | | | | | | | |
| INPUT OTHER EXCESS( ) | | | | | | | | | | | |
| BUILD TEMP FILE | | X | X | X | X | X | X | | | | X |
| BUILD TMP RECORD | | | | | | | | | | | |
| ADD VARIABLES | | | | | | | | | | | |
| CHECK EARPE/OTHER | | X | X | X | X | | | | | | X |
| STORE DATA | | | | | | | | | | | |
| DISPOSITION MANAGEMENT | | X | X | X | X | X | X | X | X | X | X |
| MANAGE STATUS FILE | | X | X | X | X | X | X | X | X | X | X |
| INPUT ACTIVATION | | | | | | | | | | | |
| CHECK PAGE | | X | | | | X | | X | X | X | X |
| MODIFY RECORD | | X | | | | | | | | | X |

# VI. SYSTEM SPECIFICATION

## A. PROCESSING ENVIRONMENT

This design team recommends that the processing environment for the proposed system consist of a microcomputer with an 80286 or 80386 processor, a minimum of 40 mb of hard disk storage (the ideal size should be 80 mb), and at least 1 mb of RAM.[1] The capability should also exist for this microcomputer to act as a main file server linked to other microcomputers to form a Local Area Network (LAN).

With the minimum storage requirement of 40 mb, over 50% of storage capacity will already be allocated from initial system implementation. This will limit the system's future growth potential as well as adversely affect PMB's future operational effectiveness and efficiency. Therefore, 80 mb of hard disk storage capacity is the ideal choice for PMB.

The proposed system software should be a commercial database product. This design team recommends that the commercial database product used for system implementation be dBASE III PLUS by Ashton-Tate.

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[1]The disk storage capabilities for the 80286 are maximized around 80 mb and the 80386 can range all the way up to 130 mb as specified by two local vendors (Monterey Bay Computer Works and Computer Craft of Monterey).

This particular processing environment of microcomputer hardware and a commercial database software package was selected for the following reasons:

- The recommended commercial database product is widely used by the Command.
- Knowledge base of dBASE III PLUS programming exists in the Supply Department [Ref. 5].
- Hard Disk Storage requirements for the proposed system exceed the capabilities of existing hardware currently in place at NPS. In order to support the required system, the procurement of more storage capability between the range of 40 mb and 80 mb should be considered.
- The recommended commercial database product can utilize the existing hardware for initial system development, training, backup, or remote data entry.
- The recommended processing environment will meet the user requirements.

A further explanation of hardware requirements and proposed system configuration is presented in Section C of this chapter.

## B. REQUIRED FUNCTION

The proposed PMPS must meet both the user requirements and the requirements established by higher authority. To meet these requirements, the PMPS must include the following functions:

- Provide auditable records on all acquisitions, disposals and transfers.
- Provide adequate security to prevent unauthorized access to the database.
- Provide inventory listings by department, item, inventory date, or other selected sort sequence.

- Prepare a DD 1342 with minimal manual involvement.
- Prepare a Plant or Minor Property report (NAVCOMPT 274).
- Match inventory listings from departments to determine lost, missing or stolen property.

C. PERFORMANCE CONSTRAINTS

System performance depends on the following factors:

- System size
- Processor speed
- System configuration
- Program efficiency

These factors are described in detail in the following paragraphs.

1. System Size

The PMPS projected size is obtained by summing the elements of each record and multiplying this total by the projected number of records given to this design team by PMB [Ref. 1]. Table 6.1 summarizes the proposed file structure sizing. The sizing also includes the overhead required for file indexing.[2] In spite of this increase, the time factor in locating a record will be reduced from minutes to mere seconds. A more detailed description of file sizing is presented in the last part of Appendix B.

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[2]The index of the file is determined by the general formula [(index field length + pointer length) * number of records * 1.3]. This total is then added to the master file size to determine the total file size.

TABLE 6.1 PMPS SYSTEM SIZING

| File Name | Record Size | # of Records | Total Size |
|---|---|---|---|
| D_PENDING | 444 | 1,000 | 0.46 mb |
| MINOR | 268 | 60,000 | 17.32 mb |
| OVERHEAD | --- | --- | 1.0 mb |
| PENDING | 211 | 1,000 | 0.24 mb |
| PLANT | 556 | 5,000 | 2.89 mb |
| | | TOTAL | 21.91 mb |

The total for these applications is approximately 22 mb of storage requirements, which is 55 percent (22/40 = 0.55) of the recommended minimum size and 28 percent (22/80 = 0.28) of the ideal size for hard disk storage. With 55 percent of the storage capacity initially consumed, the proposed system will be greatly affected when future demands rapidly deplete the remaining storage capacity (See Figures 6.1 and 6.2). The ideal storage capacity (80 mb) will have only 28 percent of its capacity utilized. Therefore, this sizing can easily handle a 200 percent increase in demand without seriously affecting program efficiency. Table 6.2 computes various utilization capacities based on the projected demand from initial system design.

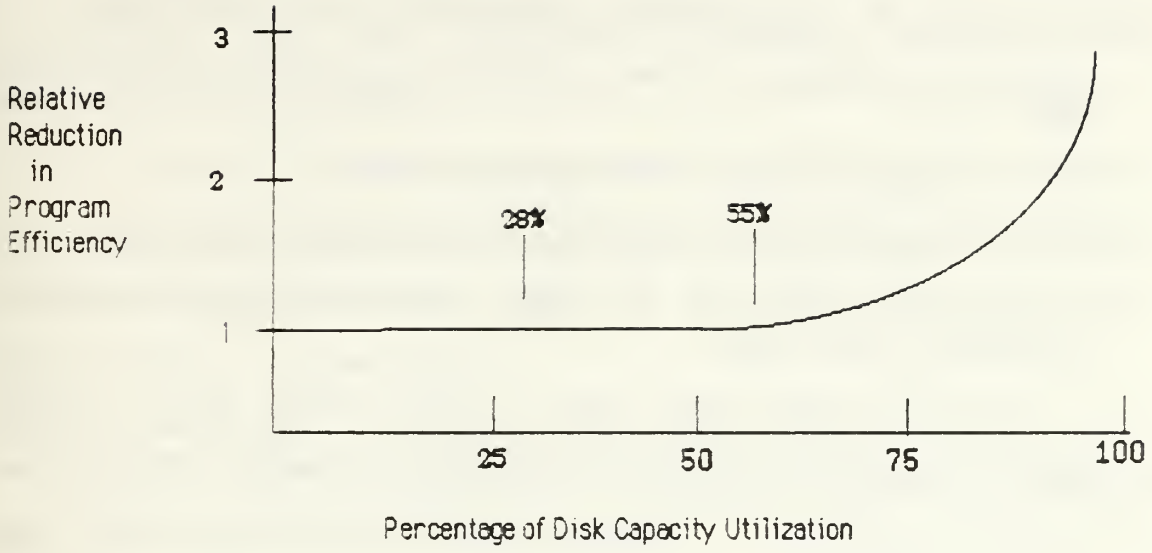


Figure 6.1 A Comparison of Program Efficiency vs. Disk Capacity Utilization [Ref. 9].

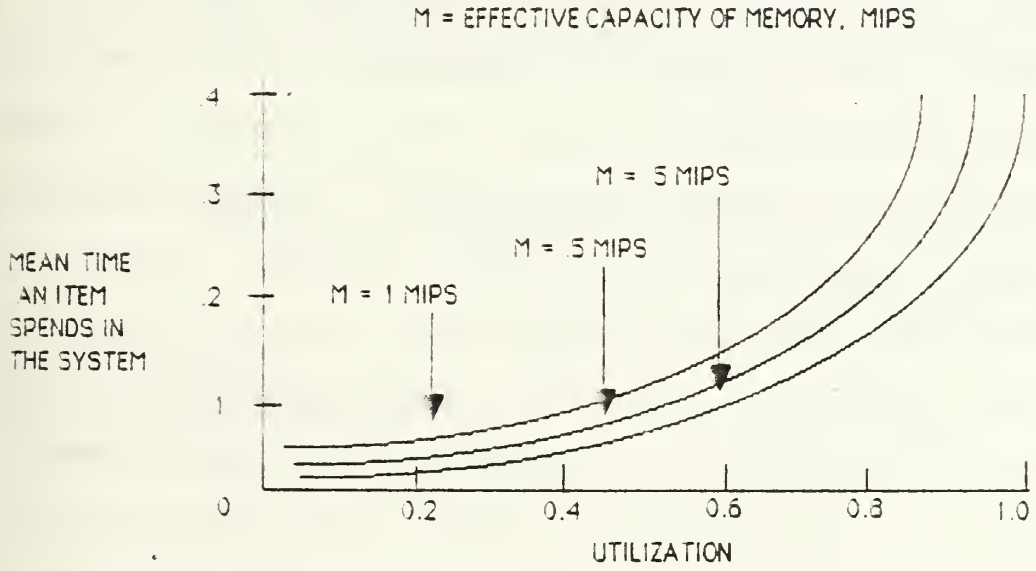


Figure 6.2 Mean Delay Versus Utilization [Ref. 10]

The ideal size of hard disk storage (80 mb) would handle growth in the proposed system for the following:

- Estimation errors of the projected size of the proposed PMPS.
- Future expansion of the proposed PMPS.
- Future expansion of applications dealing with PMPS.
- Future integration of the PMPS with other acquisition lifecycle functions.

A 40 mb hard disk with a tape backup system should be used to regularly backup the system's Master data files. It is not necessary to backup index files since the same information is contained in the Master file. The average time to index files of this type, or a variety of processors, is presented in Table 6.3.

The 80 mb hard disk is the upward limit on the 80286 family of processors unless special disk controllers are utilized. Hard disk storage of greater than 40 mb is recommended, since the cost of increasing storage from 40 mb to 80 mb is approximately $1,000.[3] This increase in storage would allow even greater flexibility for system expansion and would reduce future capacity concerns. Table 6.2 summarizes the comparisons between the 40 mb and the 80 mb hard disk storage devices. The 130 mb figures are also included in Table 6.2 to demonstrate the full range of

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[3]This design team gathered information on the 80386 processor from various local vendors. This information was presented to the PMB office for use in system procurement.

storage capacity that the 80386 processor family is capable of handling. The cost comparison assumes a microcomputer with an 80386 processor.

Another factor to consider is the current MS-DOS disk partition size limit of 32 mb. To operate the proposed system on a disk larger than 32 mb, the following four alternatives are available:

1. Use an address extension software product to increase the operating system addressable storage space beyond 32 mb. This product will handle any size disk proposed in this thesis [Ref. 11].

2. Use a path to go from one partition to another so changes in the partitions are transparent to the user [Ref. 12].

3. Store the files and application programs on separate disk partitions and develop the code to make the system appear to be on the same disk partition [Ref. 12].

4. Further subdivide any large files (such as the Minor file) by department code or other logical breakdown, and evenly spread the data over multiple partitions. The application program could be written to handle these subdivided files as if they were one file [Ref. 12].

TABLE 6.2 STORAGE CAPACITY COMPARISON

| | Storage Device Size | | |
|---|---|---|---|
| | 40 mb | 80 mb | 130 mb |
| Projected Demand Capacity Utilization at Implementation Time for the Designed System | 55% | 27% | 17% |
| Projected Demand with a 50% Growth Factor Capacity Utilization | 83% | 41% | 26% |
| Projected Demand with a 100% Growth Factor Capacity Utilization | 110% | 55% | 34% |
| Approximate cost to PMB | $4200 | $5200 | $6200 |

2. Processor Speed

Processing speed for the proposed system will be dependent on the following attributes:

- System excess capacity
- CPU cycle time
- Disk access time

Figures 6.1 and 6.2 demonstrate the dramatic slow-down of processing as the system becomes saturated. Maintaining system utilization below 80% is a must in order to maintain proper system performance [Ref. 10]. With the current low cost of system memory and the relatively high personnel costs associated with computer operator time, improving system speed means a positive cost reduction for a modest initial expense. Therefore, it is recommended that at least 1 mb of RAM be installed in the microcomputer selected. This will give the PMPS a 64% [640 kb/1 mb = 0.64 640 kb is required for the file server] utilization factor and greatly improve system performance. (See Figure 6.3 for file server size requirements). Additional amounts of RAM should be considered as the workload on the system increases.

Table 6.3 compares the differences in the three types of processors considered for the proposed system. Included in this comparison are the various record retrieval techniques used by dBASE III PLUS and other database products. A brief discussion of the techniques employed by dBASE III PLUS follows.

Finding a record based on the indexed field may be accomplished instantaneously when utilizing the FIND or SEEK commands. These commands use the index pointer system to rapidly locate the desired record. The difference between these two commands is that SEEK can search for an expression where FIND cannot.

Locating a record using the LOCATE command is much slower than using the above two commands. But unlike FIND or SEEK, this command will locate records when the field(s) containing the search parameters are not indexed. Also, the LOCATE command automatically starts its search at the top of the file while FIND and SEEK start their search at the position of the record pointer. The use of the LOCATE command would be useful if the storage space was too small to accommodate the required number of indexes, or if special ad-hoc queries required searching the database on non-indexed fields.

Using the INDEX command to organize the file is much more efficient than SORT command. The SORT command will not work with substrings or other expressions, and is limited to a maximum of ten fields. It is not recommended that the SORT command be used in any file organization for the proposed system.

TABLE 6.3 PROCESSOR COMPARISON

| Processor | 8086 | 80286 | 80386 |
|---|---|---|---|
| Application | | | |
| INDEX 60,000 records | 60 min | 15 min | 6 min |
| Maximum time to locate a record using the LOCATE COMMAND | 24 min | 6 min | 3 min |
| Maximum time to locate a record using the FIND or SEEK COMMAND | 1 sec | 1 sec | 1 sec |
| Maximum hard disk storage per drive without special controller functions | 30 mb | 80 mb | 130 mb |
| Approximate cost to PMB | $1,200 | $3,100 | $6,200 |

The results garnered from Table 6.3 clearly indicate that only microcomputers with an 80286 or 80386 processor are worth considering for effective system implementation. For a modest increase in price over the 80286 processor, the 80386 microcomputer is further recommended due to its superior performance record.

3. System Configuration

The designated commercial database application program is capable of handling remote access. Figure 6.3 shows the recommended layout of the proposed system network. It is recommended that the network development be delayed until after the central file server in the PMB office has been acquired, implemented, tested, and is operational.

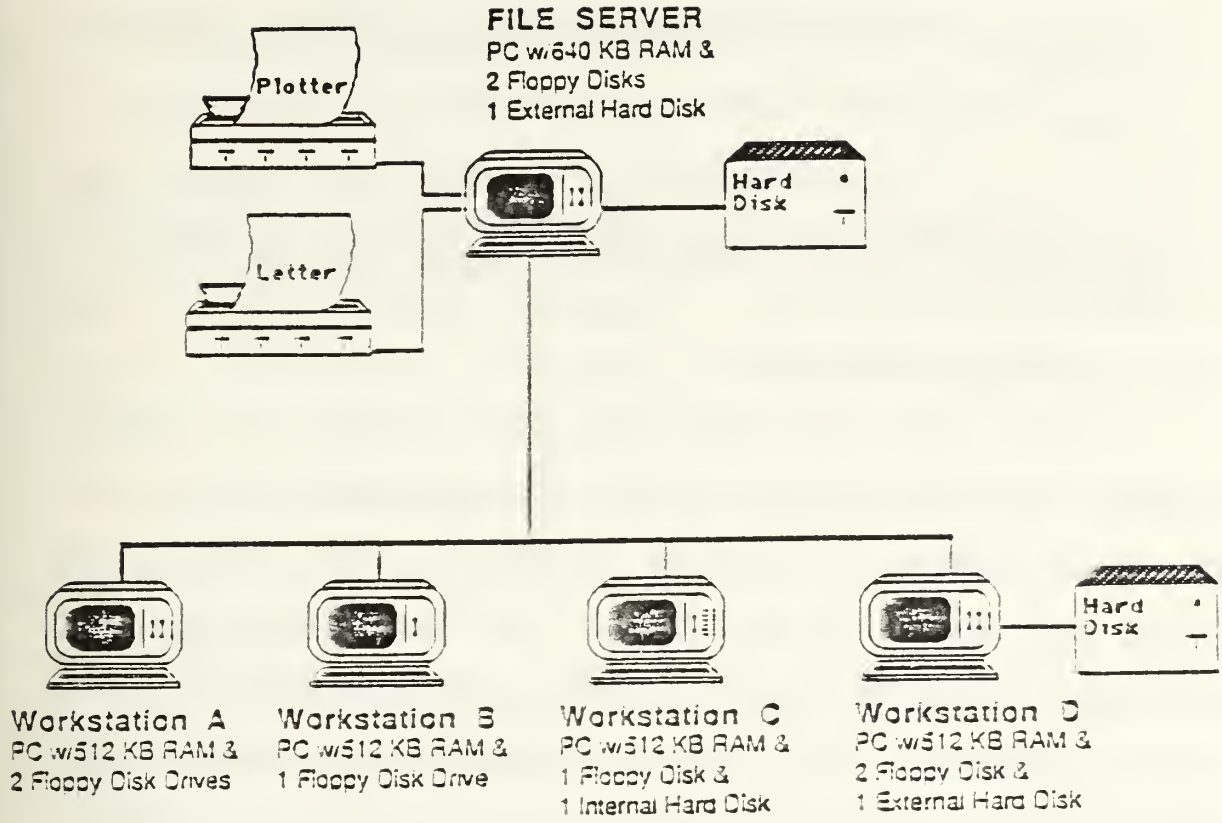


Figure 6.3 The LAN Environment

This step by step implementation process will solve the current need for an operational PMPS at PMB and result in a controllable and cost effective expansion of the system. To reduce the cost of the proposed system, previously acquired hardware should be utilized for remote entry terminals.

dBASE III PLUS requires the following specifications for remote access to the central file server [Ref. 10].

- DOS 3.1 or higher.
- An IBM PC, Novel Advance Netware/86, or 3Com 3+ network software.
- A LAN.
- At least one 360k floppy drive and 512 k of internal RAM for each remote terminal. Remote terminal configuration may differ, but this basic requirement must be met by each one.

4. Program Efficiency

When using the dBASE III PLUS program environment, the efficiency of the program can be increased through the use of procedures. Program procedures are loaded into memory only once, instead of each time the module is called as in the case of program modules. The benefit of pre-loading procedures into memory eliminates the need for disk access whenever the module is called. To further increase program run time, the dBASE III PLUS program can be compiled into a COM file. A dBASE III PLUS compiler is readily available within the Command [Ref. 12]. As recommended by this design team, program efficiency for the proposed PMPS will be greatly enhanced if frequently used modules are developed as procedures and compiled into a single program.

D. EXCEPTION HANDLING

An "exception" is an event that suspends the normal execution of a program. A few exception handling event examples are:

- Data values out of range
- Violation of capacity limits
- Application of operators to illegal data values
- Attempt to process unavailable data

dBASE III PLUS performs exception handling through the use of error-trapping routines. These routines are set up in the application software programs to check for user errors.

During system implementation, the use of error-trapping routines should be included to expand the quality of the PMPS programs.

Through careful design review, this team has attempted to eliminate most of the foreseen user errors by the use of careful system design. One error that cannot be prevented is the input of improper data which will always be a potential problem for the system. By using the file modification modules designed into the system, however, users have the ability to correct this type of error. To reduce the need of having to perform this tedious task, it is recommended that the PMPS data be screened for errors and the need for improved exception handling be reevaluated on a regular basis. Only through proper review will the PMPS data integrity improve.

## E. PROBABLE MODIFICATIONS

Future growth and enhancements of the proposed PMPS is a certainty. Every effort was made to anticipate the probable growth and modification of the proposed system, both on a long and short term basis. The probable modifications include:

- LAN development
- Integration with other LCM functions
- Increased storage requirements
- System improvements

Proposed system networking in a LAN environment is seen as a short term enhancement. The recommended hardware and software will handle the LAN alternative which, as discussed previously, is the first anticipated system enhancement. Network growth beyond PMB requirements alone is also likely. This growth will be easily attainable in an incremental fashion based on the hardware and software recommended for the proposed system implementation. It is important to emphasize that additional equipment will be required as the LAN grows.

A further step in the sharing of PMB data resources would be to integrate the proposed system into an automated LCM system for the Supply Department. Products are available to integrate the microcomputer based PMPS with the LCM system whether it be hosted on a microcomputer, minicomputer, or mainframe computer. This enhancement appears to be long term, but was considered in PMPS design.

However, in the near future PMB might have to increase both its storage capabilities and processor memory size due to increased workload and applications beyond the predicted requirements. On the other hand, if the ideal hard disk of 130 mb is procured initially, the storage capacity may not have to be increased as quickly. An enhancement of this type would only require sizing the additional capacity and initiating its purchase. It is essential to ensure that all additions are integrable with the proposed components.

PMPS improvements will probably comprise the largest area of enhancements to the proposed system. In an effort to minimize the negative aspect of enhancements, modern system design techniques were used to make such software enhancements easier and more manageable to implement.[4] Through the use of proper design techniques and the following requirements, the proposed system should be easily maintainable.

- Heavy use of comments are used in code development.
- System Hierarchy and IPO charts are updated to reflect any changes or modifications.
- Data Dictionary is changed to reflect any modifications.
- The user manual is updated as required.
- Configuration control is implemented immediately after system implementation to control changes.

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[4]Typical system lifecycle costs devote 80 percent of their budget to the maintenance of existing software.

Despite the relatively small size of the proposed system, adhering to the above criteria will significantly reduce the burden of system maintenance, resulting in a viable system for years to come.

## F. ACCEPTANCE CRITERIA

The PMB office needs to compile an adequate set of test data prior to the start of system coding. This set of test data will be used by the programmer and the PMB office to certify the proposed system. While testing is the principal method of determining whether a program is ready for operational use, it cannot guarantee that a program is error-free, nor can it produce reasonable estimates of how many errors remain undetected. Therefore, it is recommended that the testing for the proposed system be in the form of black box testing. Black box, or functional testing, is a testing method that does not use any knowledge of the internal structure of the program. What it does do is analyze the results of a program's execution for a given input.

The set of test data for the Acquisitions' portion of the PMPS should include the following:

- An input selection of at least 10 DD-1342s to load database for testing.
- Approximately 10 DD 1342s with extreme values of data.
- DD 1342 entry where each field is out-of-range (if applicable for this field).

The set of test data for the Dispositions' portion of the PMPS should include the following:

- 10 sample Memo-Es for PMPS and 10 sample Memo-Es for non PMPS items to load the D_PENDING file.
- 10 Memo-Es with extreme data values.
- Several Memo-Es where each field is out-of-range (if applicable for the field).

Using this test data set, the proposed system should perform each of its required functions satisfactorily. Questions to be considered carefully include:

- Are printed forms and reports correct ?
- Are records and files being properly appended, updated, and deleted ?
- Is the system usable and understandable by PMB personnel ?

Only through careful test data set construction, methodical testing, and discriminating acceptance standards will PMB receive a PMPS that will be an effective and efficient tool for the proper management of Plant and Minor Property.

## VII. RECOMMENDATIONS AND CONCLUSIONS

### A. IMPLEMENTATION SCHEDULE

The proposed PMPS should be implemented in two concurrent phases; the first of which is system coding and testing. This phase can be realized using current Command resources [Ref. 5]. PMB direct involvement during this phase is a must in order to achieve a satisfactory product while utilizing the implementation time to its full potential. The initial estimated effort for this phase is two man-months which includes system testing. This particular estimate was based on interviews with personnel who will be involved in the implementation of the system, and will have to deal with the detailed design presented in this paper [Ref. 5].

The second phase involves the procurement of required hardware and software. Since all of the required items for system implementation have been sighted at local retailers, it is felt that the estimated time for completion of this phase is one month. Funding for procurement of the system is also readily available [Ref. 5].

### B. USER REQUIREMENTS MET

System implementation will satisfy the following user requirements:

- The system must ensure that Plant and Minor Property must be in a similar format.
- The system must reduce the tedious and complicated duplication of efforts on the property record card.
- The system should be expandable and interface with the other areas of LCM.
- Departmental inventories should be able to be performed by the departments or PMB.
- A "hit list" should be developed to more effectively manage reutilization.
- The system must be able to perform other special required inventories.
- The system must be able to perform required reports and/or ad-hoc requests.

The following paragraphs give a brief description of how these user requirements can be met.

Plant and Minor Property will be handled by the same modules in the proposed system with the exception of the electronic storage of the DD 1342. The property code is used to differentiate between the two main PMPS files storing the DD 1342. One of these files is for Minor Property and the other for Plant Property. The reason two files exist is to reduce storage requirements. This reduction in storage requirements is highlighted at the end of Appendix B. To simplify PMB operations, the same form (DD 1342) will be used to print both file records.

Using database technology, the designed MIS will reduce redundant data handling. This feature will be extremely useful for the multiple forms and calculations required by

PMB and will also allow departmental inventory lists to be easily obtained.

The proposed PMPS can easily be expanded through additional storage capacity or by increasing the network size. In addition, the PMPS can interface with other areas of LCM since the selected software is compatible with other MIS products. The fact that the selected hardware can interface with larger systems is another advantage to the proposed system design.

Inventory lists can be generated by either department or property type, or both. Because of this flexibility, inventories can be conducted by departmental or PMB personnel based on current Command policy instead of system limitations.

The MIS design also allows for reutilization information on PMPS or other items to be easily obtained with minimal operator action. The creation and management of this "hit list" is accomplished by using the information in the Plant and Minor files for PMPS reutilization and by including other important data items such as the name and phone number of the point of contact for the item being reutilized. The capability of adding non PMPS items was included to improve the vital reutilization operation.

The performance of other special inventories is accomplished by using the PMPS database and by obtaining an inventory list based on property code. The property code

promotes system flexibility since the one character code may be modified by PMB to reflect changing requirements. Changes in the meaning of the property code will result in a slight program modification and database update.

This design team included mechanisms for producing the known required reports. Any changes or additional reports can be added by either adding a module or by using the Ad-Hoc Reports module. Reports that will occur on a regular basis should have a module added. Those that will occur on an irregular or infrequent basis may be generated by using the Ad-Hoc Reports module.

C. USER REQUIREMENTS NOT MET

The following user requirements could either not be met, or were not addressed during the analysis and design effort.

- Software used for system development to be operated on existing hardware: not feasible due to the large storage capacity and interactive speed required.
- Remote input/output to the database: feasible, but out of the scope of this effort.
- Automate the conversion of the existing Plant Property file to the proposed system: feasible, but out of the scope of this effort.

In the following paragraphs we will discuss in more detail why these requirements were not met.

The selected software, dBASE III PLUS will operate on the existing hardware, but the existing hardware is not sufficient for satisfying system implementation requirements

due to its limited storage capacity and processor speed. The existing hardware may be used as remote data entry locations when a LAN is added.

The addition of a LAN, which was discussed as a short term enhancement in the previous chapter, will make remote input/output to the database possible.

Although the automatic conversion of the existing Plant Property file to the proposed system is beyond the scope of this thesis, it has been suggested that this conversion may be accomplished by one of the following options [Ref. 14]:

1. Perform a manual file conversion where the existing DD 1342s are manually entered into the PMPS database. (This is a time consuming process.)

2. Perform a Massive Loading in which a program is written locally to convert the existing database to the proposed PMPS database. (Additional information not in the current Plant Property database would have to be manually entered.)

3. Use a specification language program package, such as MODEL from 4Cs Inc., to automatically write the database conversion program.[1] (Additional information not in the current Plant Property database would have to be manually entered.)

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[1]Information concerning the MODEL database conversion program developed by Professor Noah S. Prywer is availble from the professor at Moore School of Electrical Engineering, University of Pennsylvania, Philadelphia, PA. 19104 (phone 215/898-8521). MODEL information has been requested by this design team for PMBs utilization [Ref 15].

## D. CONCLUDING REMARKS

The development of the proposed PMPS by this design team has established that effective system development can only be achieved through:

1. Intensive user involvement.
2. Proper attention to the design process.
3. Utilizing structured design tools and techniques.

Even with this relatively small system development effort, taking the time to understand the original system as well as the proposed system development will make system implementation, testing, and maintenance more reliable and much less cumbersome. Each phase of the proposed PMPS system development was formally reviewed by the users. Although time consuming, this formal review process is the only way to ensure that the proposed system design is exactly what the user requires to improve property management at NPS.

In addition, the following recommendations are provided for consideration by PMB:

- The deliverables and recommended enhancements contained within this thesis be further developed by follow-on thesis students.
- The data dictionary be automated.
- That permission be acquired to use computer generated forms from appropriate higher authority or explore the possibility of obtaining/using a printer which can utilize existing forms and interfaces with the proposed system.
- A system users manual be written.

- An on-line training program be development for PMB personnel.
- Coding, implementation, and testing of the system be completed.
- Further explore and develop the potential benefits of LAN implementation.

# List of References


1. Personal interview with Lt. R. M. Hausvik, NPS Material Officer, 18 November 1986.

2. NAVCOMPT MANUAL, Vol. 3, Chapter 6.

3. Fairley, R. E., Software Engineering Concepts, p. 44, McGraw-Hill, Inc., 1985.

4. Kroenke, D. M., Business Computer System, p. 25, Mitchell Publishing, Inc., 1984.

5. Personal interview with LCDR Grassi, NPS Internal Controls Officer, 2 December 1986.

6. Townsend, Carl, dBASE III PLUS: A Structured Approach, p. 296, Sybex, Inc., 1986.

7. Davis, W. S., Systems Analysis and Design, p. 282, Addison-Wesley Publishing, Inc., 1983.

8. Page-Jones, M., The Practical Guide to Structured Systems Design, pp. 75-77, Yourdon Press, Inc., 1980.

9. Boehm, B. W., "Software and Its Impact: A Quantitative Assessment," Datamation, pp. 48-59, May 1973.

10. Stallings, William, Data and Communications, pp. 182-183, MacMillian Publishing Company, 1985.

11. Personal interview with LCDR Barry Frew, Administrative Sciences Department, NPS, 11 March 1987.

12. Personal interview with Professor Y. `Ben' Mortagy, Administrative Sciences Department, NPS, 11 March 1987.

13. dBASE III PLUS, p. N1-8, Ashton-Tate.

14. Personal interview with Professor David Hsiao, Computer Science Department, NPS, 26 February 1987.

15. Telephone conversation between Professor Noah S. Prywer, Moore School of Electrical Engineering at the University of Pennsylvania, and the author, 27 February 1987.

# APPENDIX A

## DATA FLOW DIAGRAMS

Data flow diagrams are the logical models of the components of the proposed system. These models depend do not depend on the selected hardware, operating system, or application software of the proposed system. The graphical pictures presented in the data flow diagrams are intended to provide an understandingable logical model of the proposed PMPS. The data dictionary in Appendix B explains the data flows presented in the data flow dictionary.

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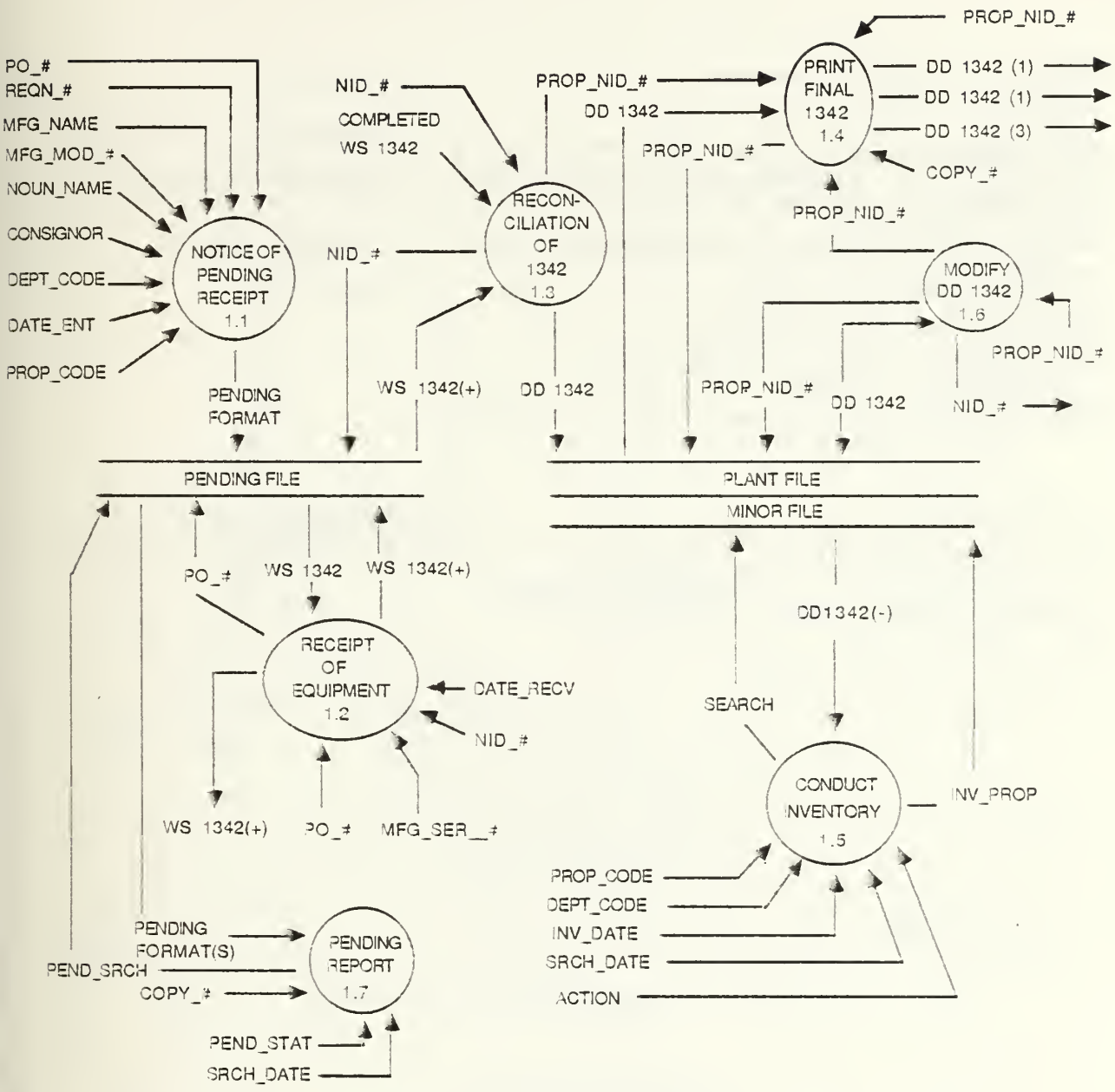
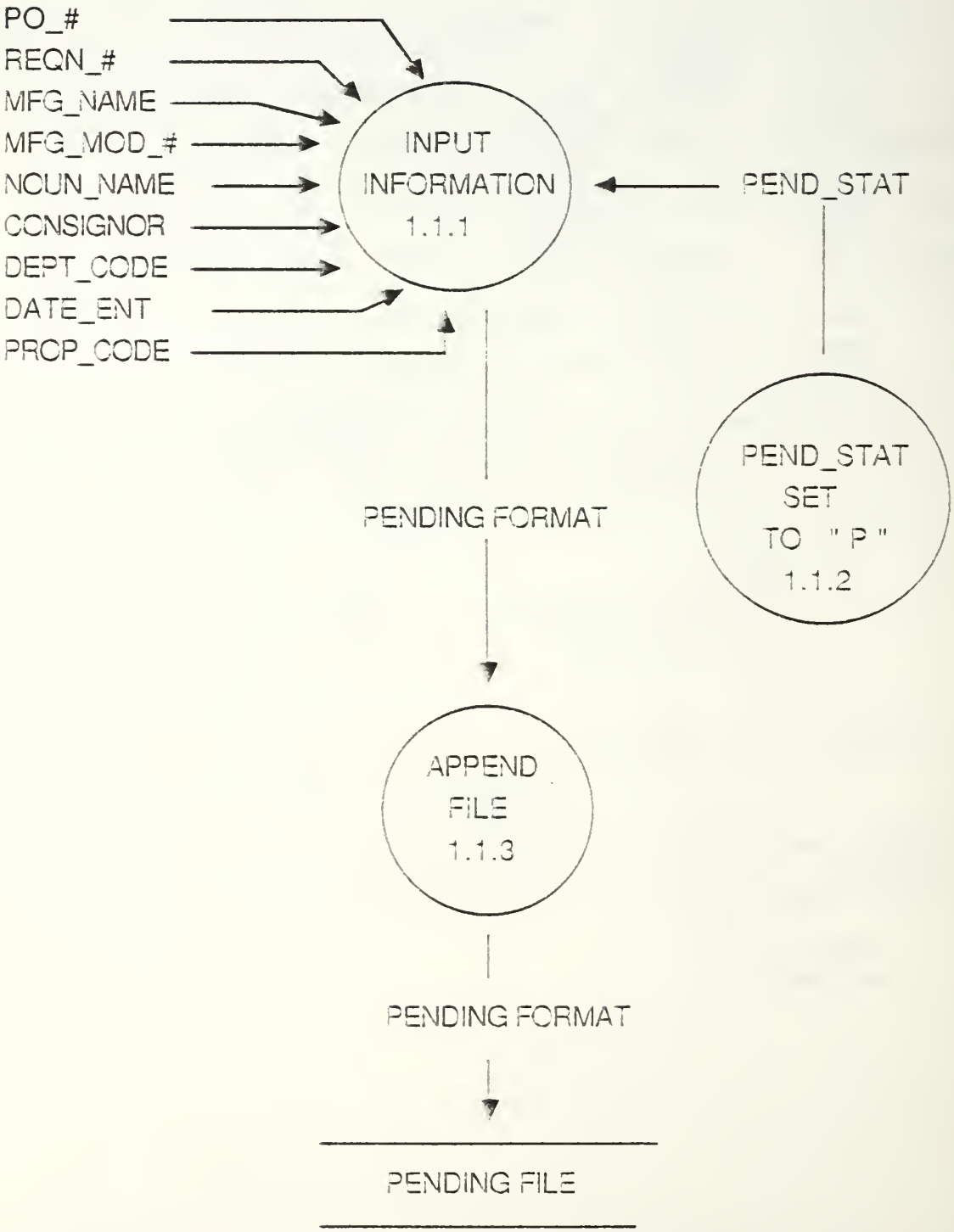


## 1.1 NOTICE OF PENDING RECEIPT



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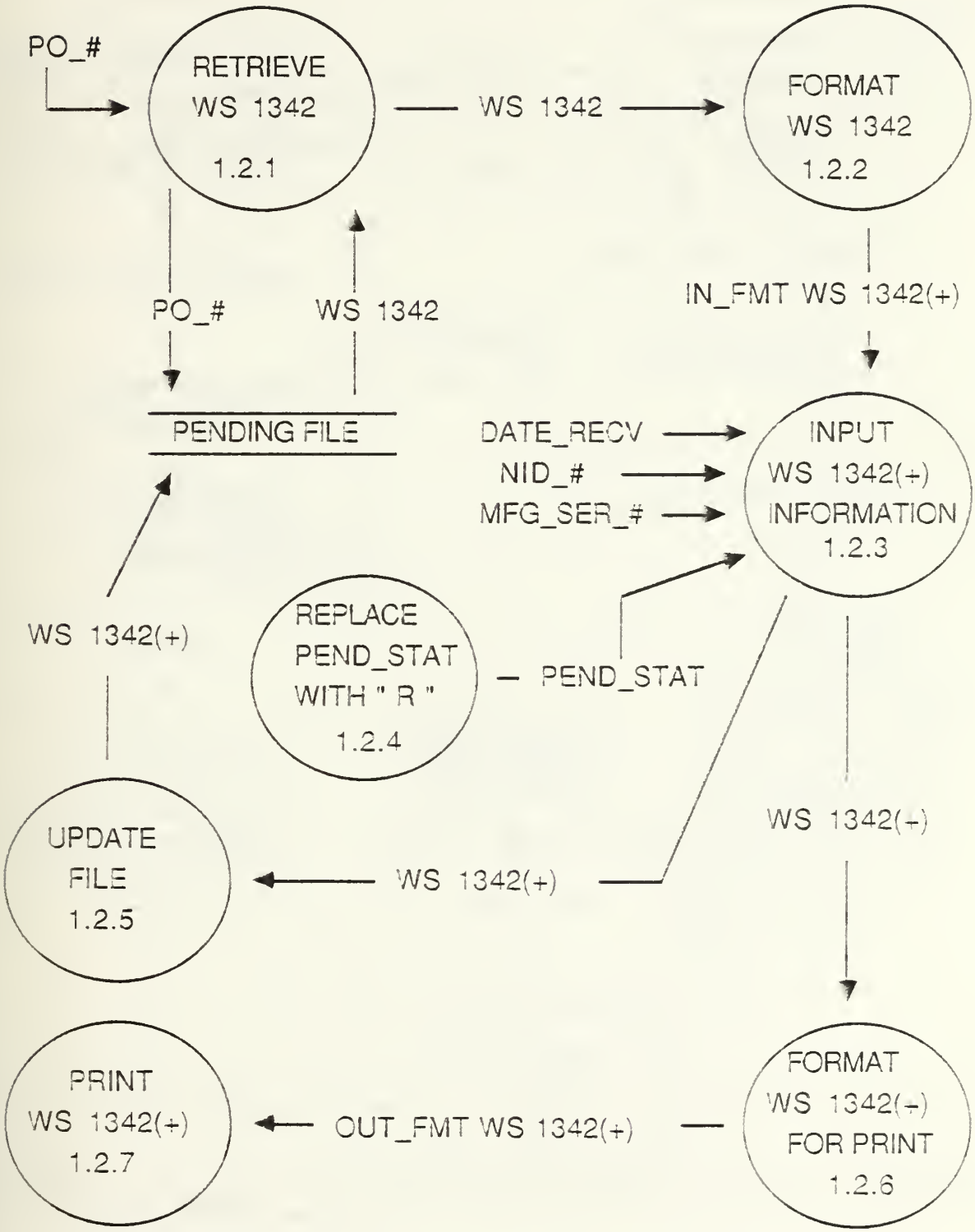

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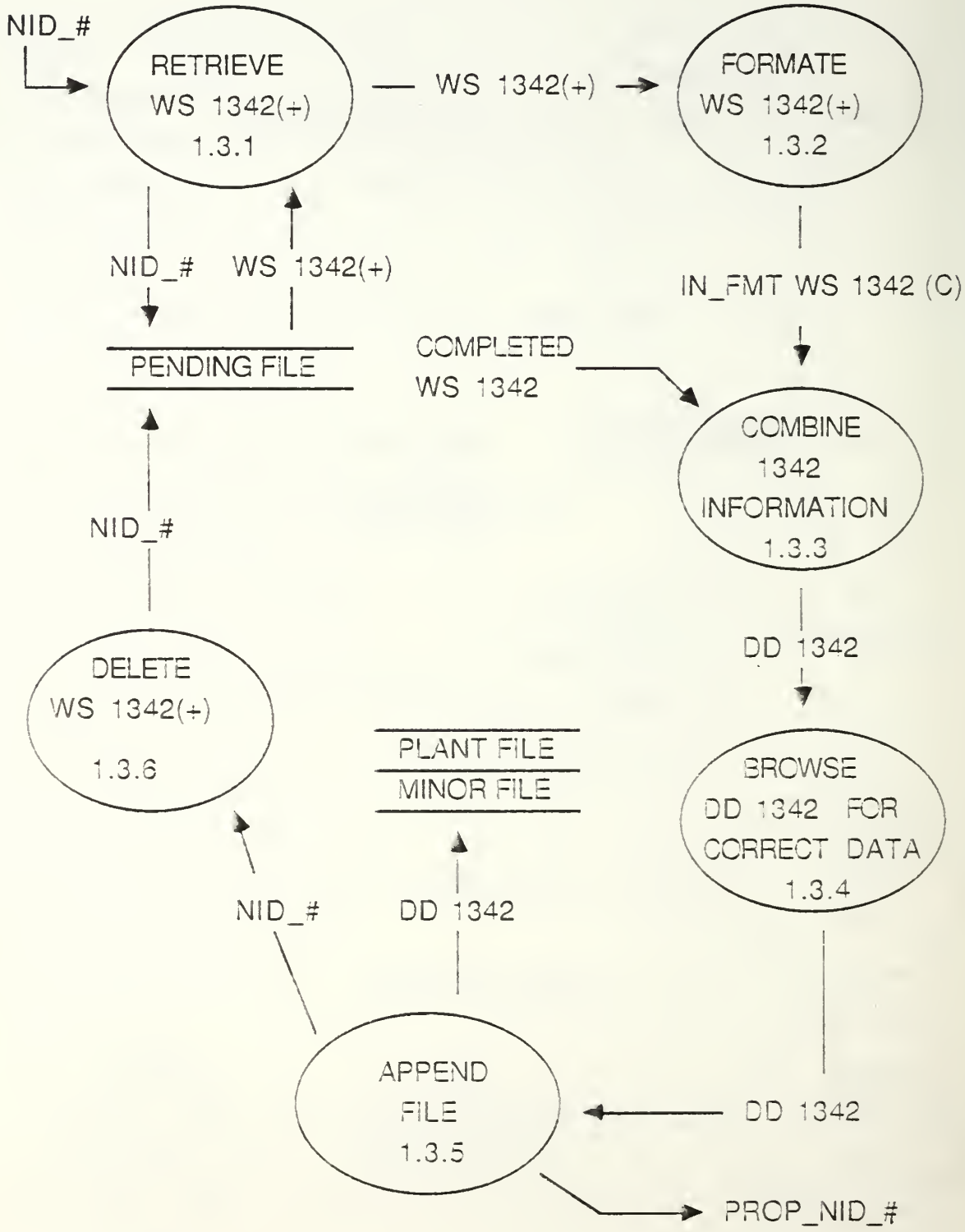
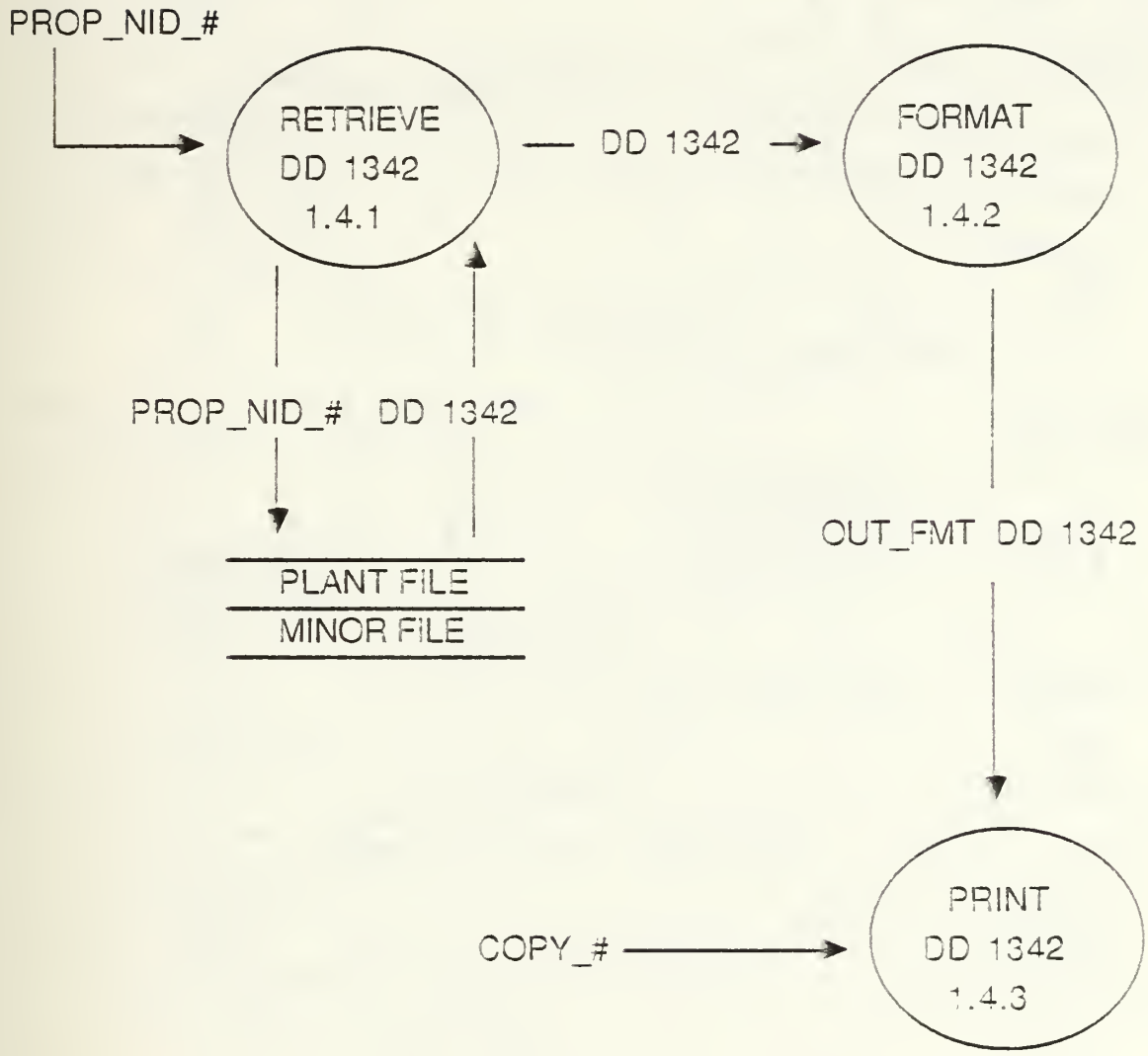
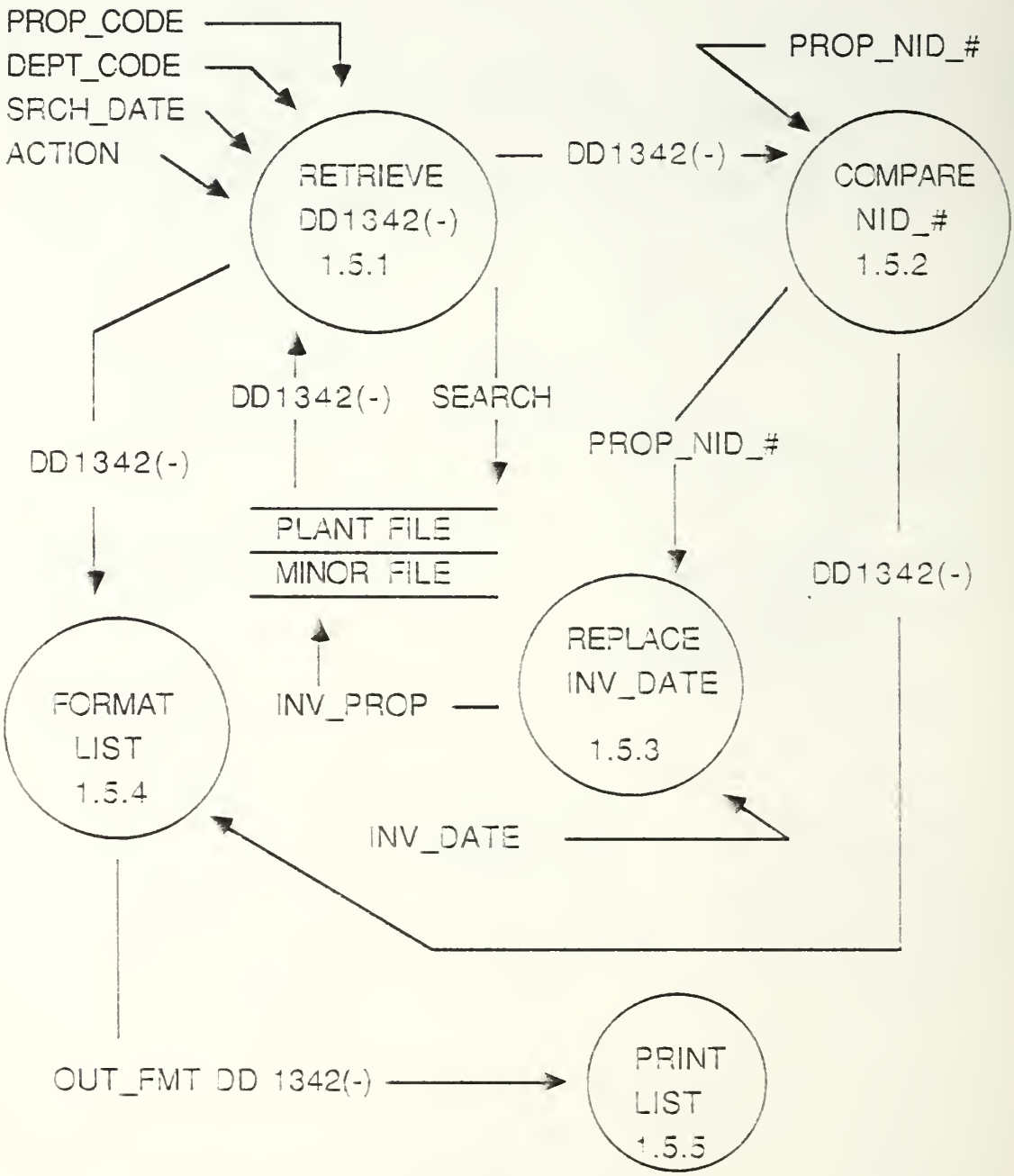


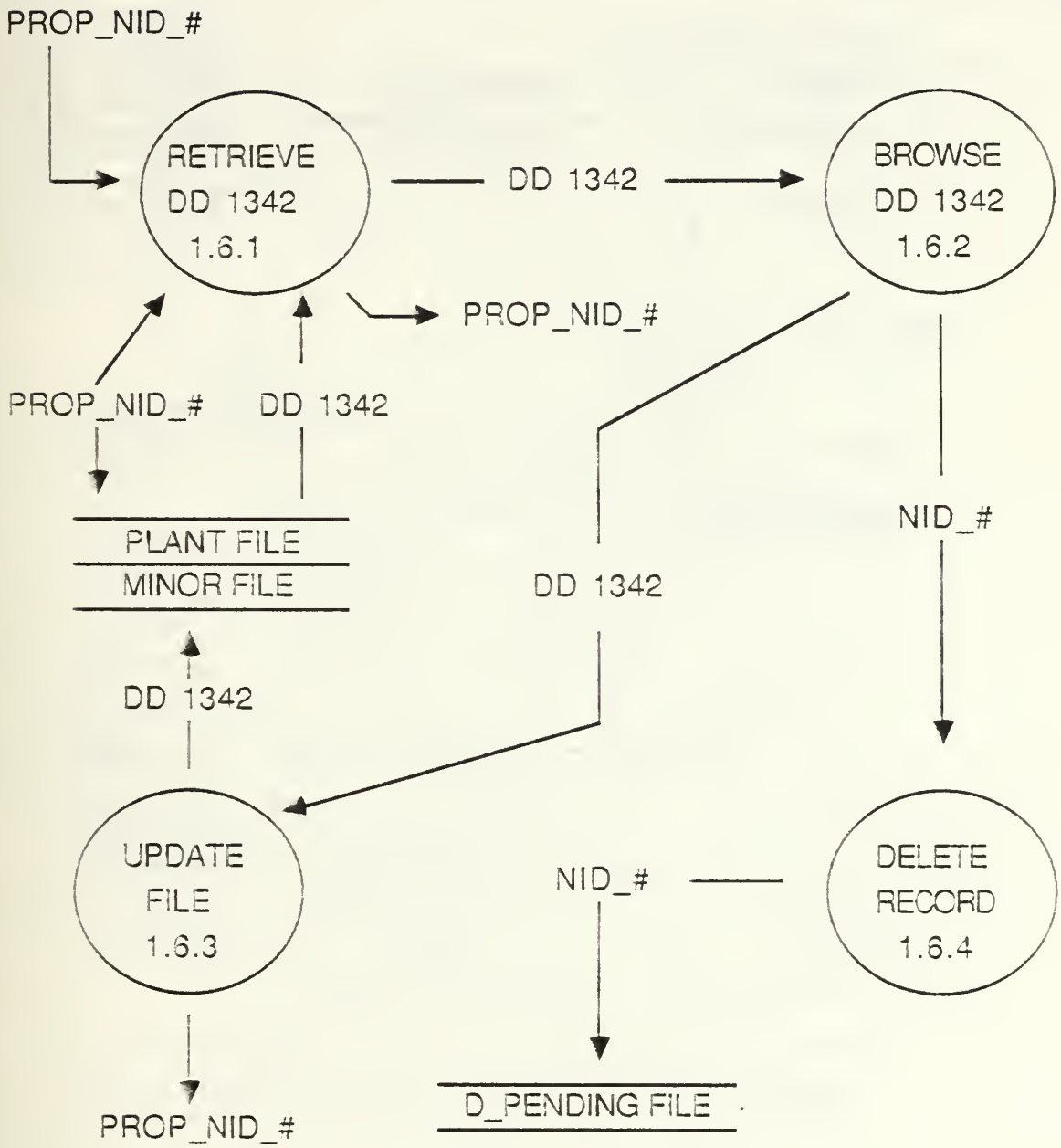
# 1.4 PRINT FINAL 1342



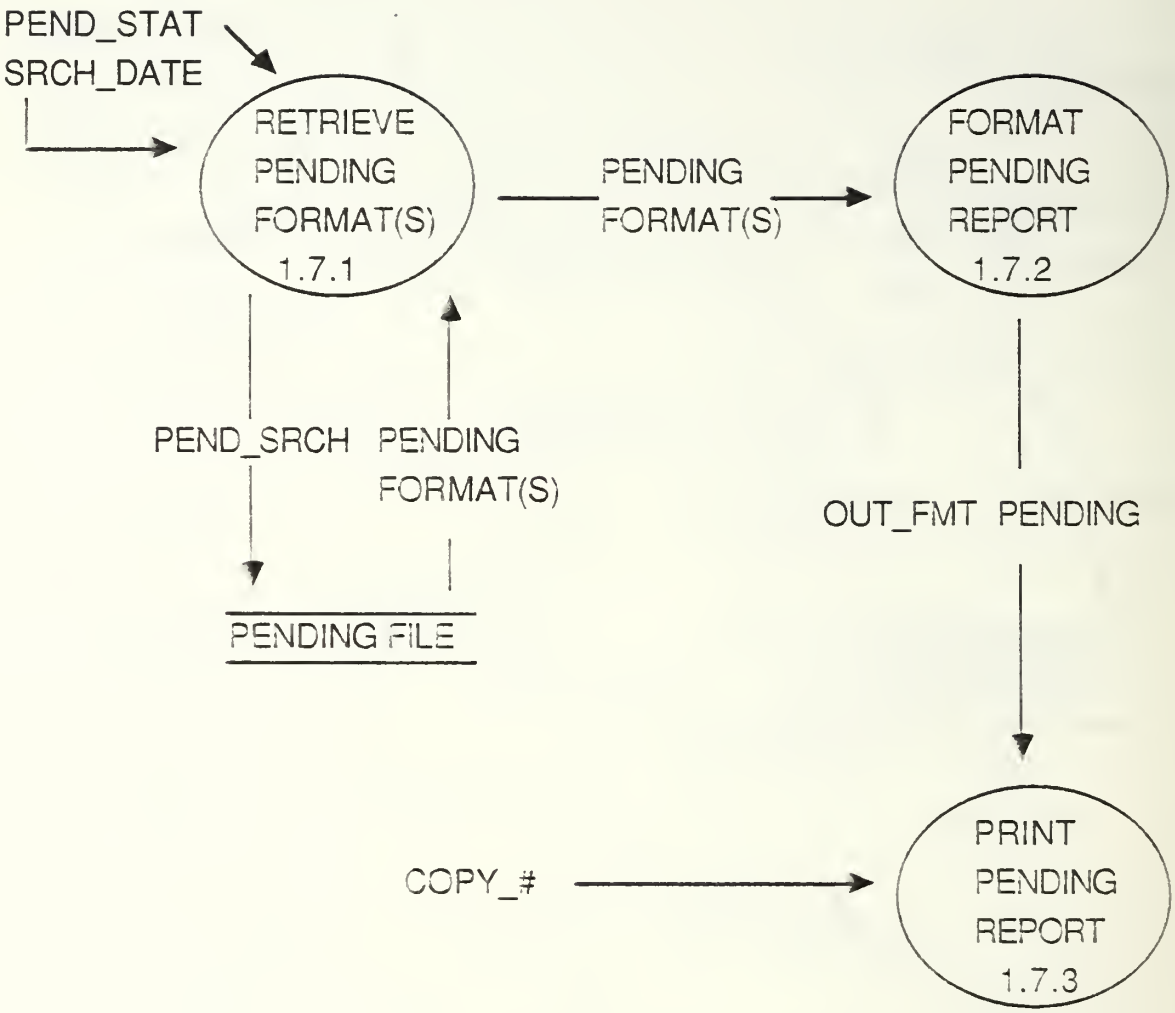
# 1.5 CONDUCT INVENTORY



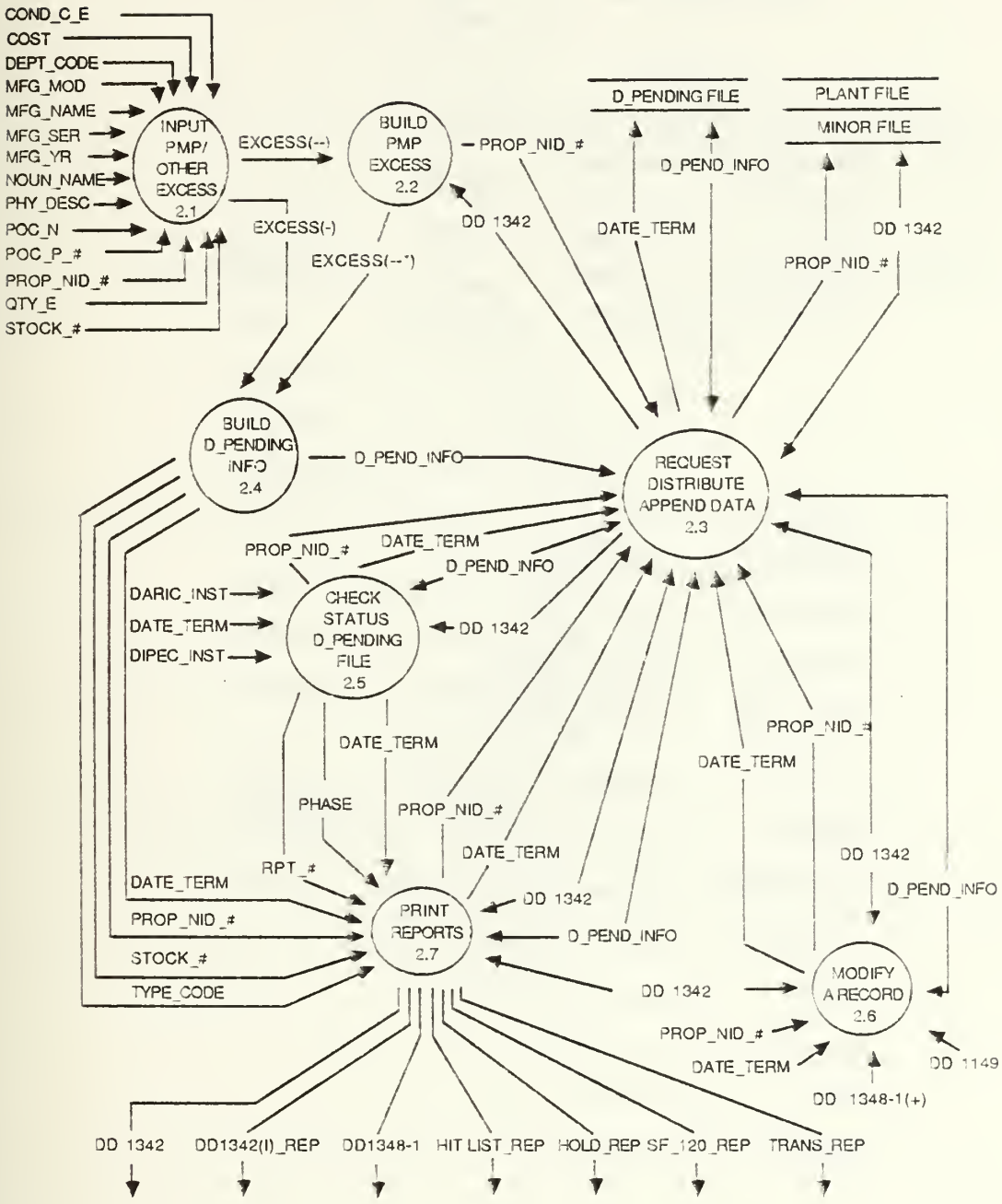
# 1.6 MODIFY DD 1342



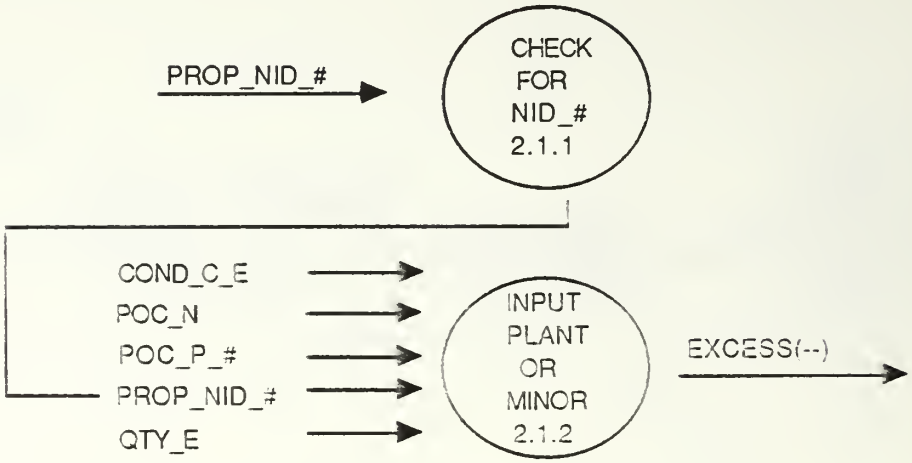
# 1.7 PENDING REPORT

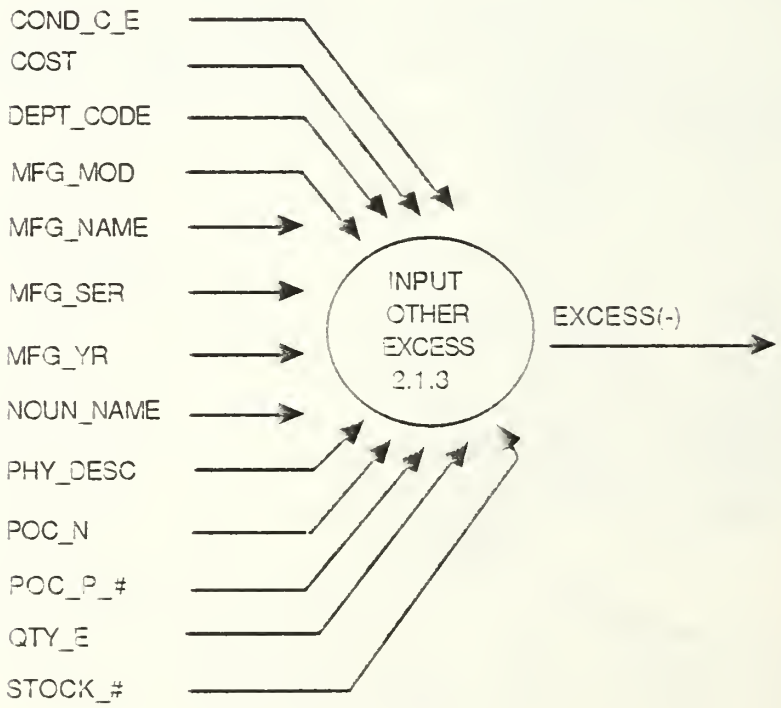


# 2.0 DISPOSITION

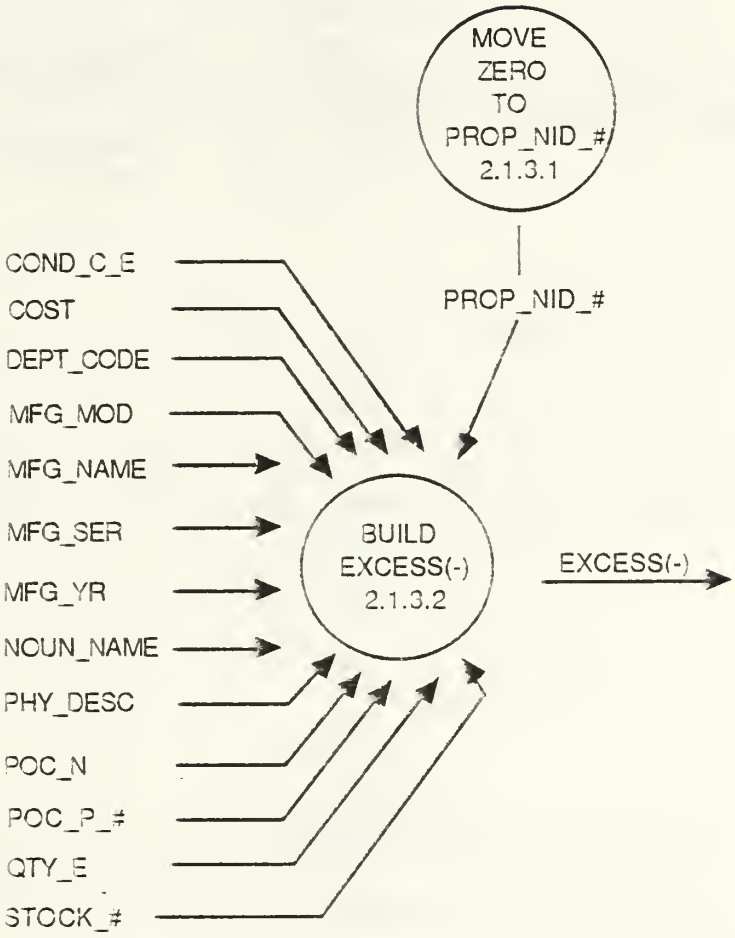


## 2.1 INPUT PMP/OTHER EXCESS

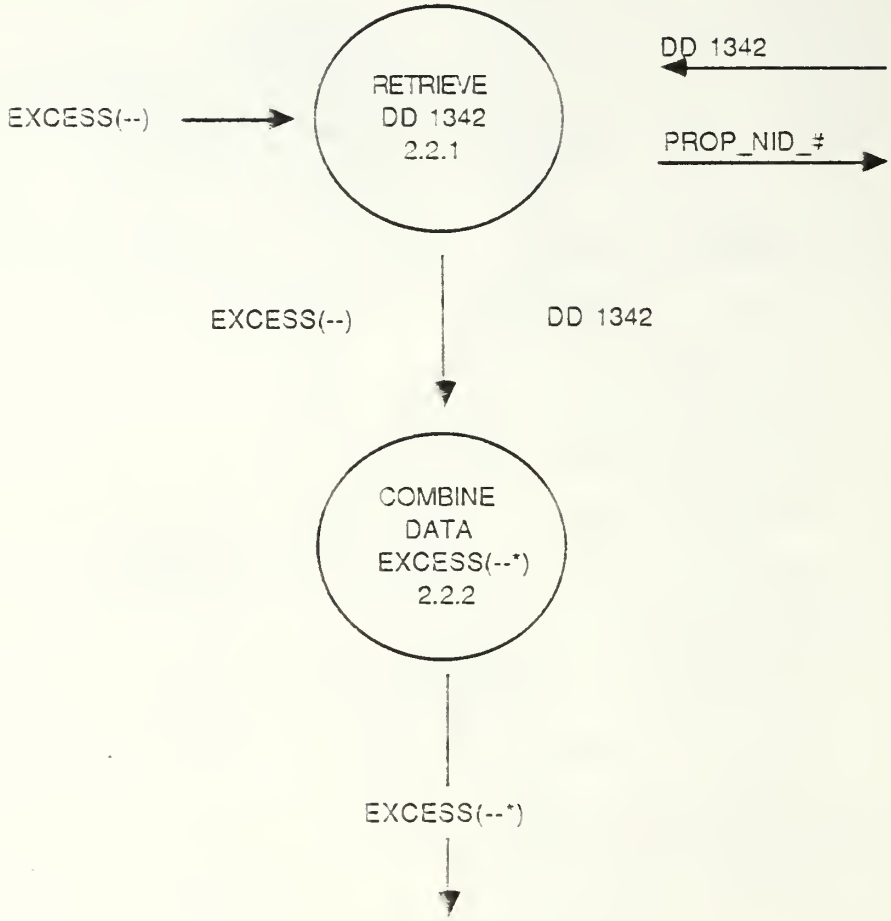


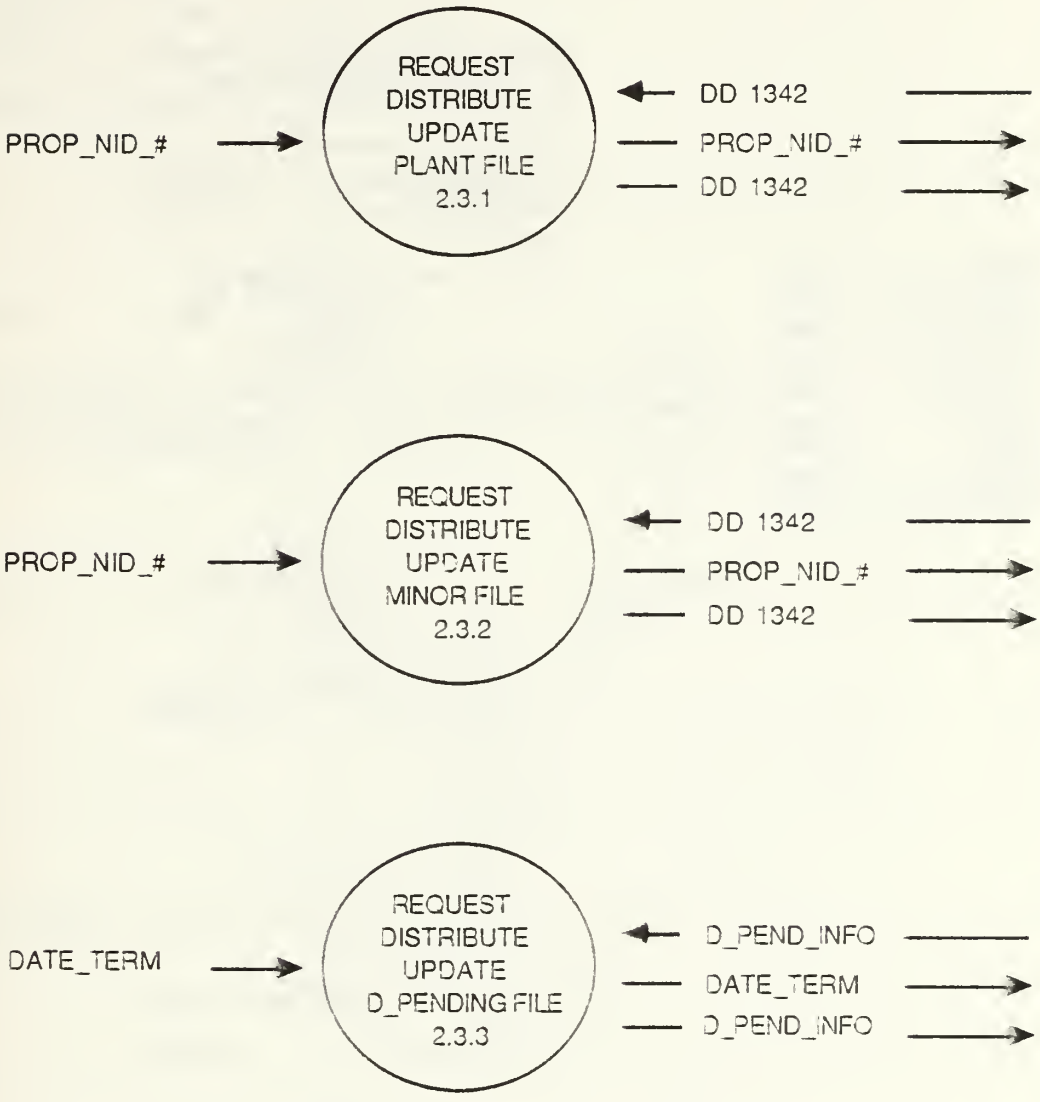
## 2.1.3 INPUT OTHER EXCESS



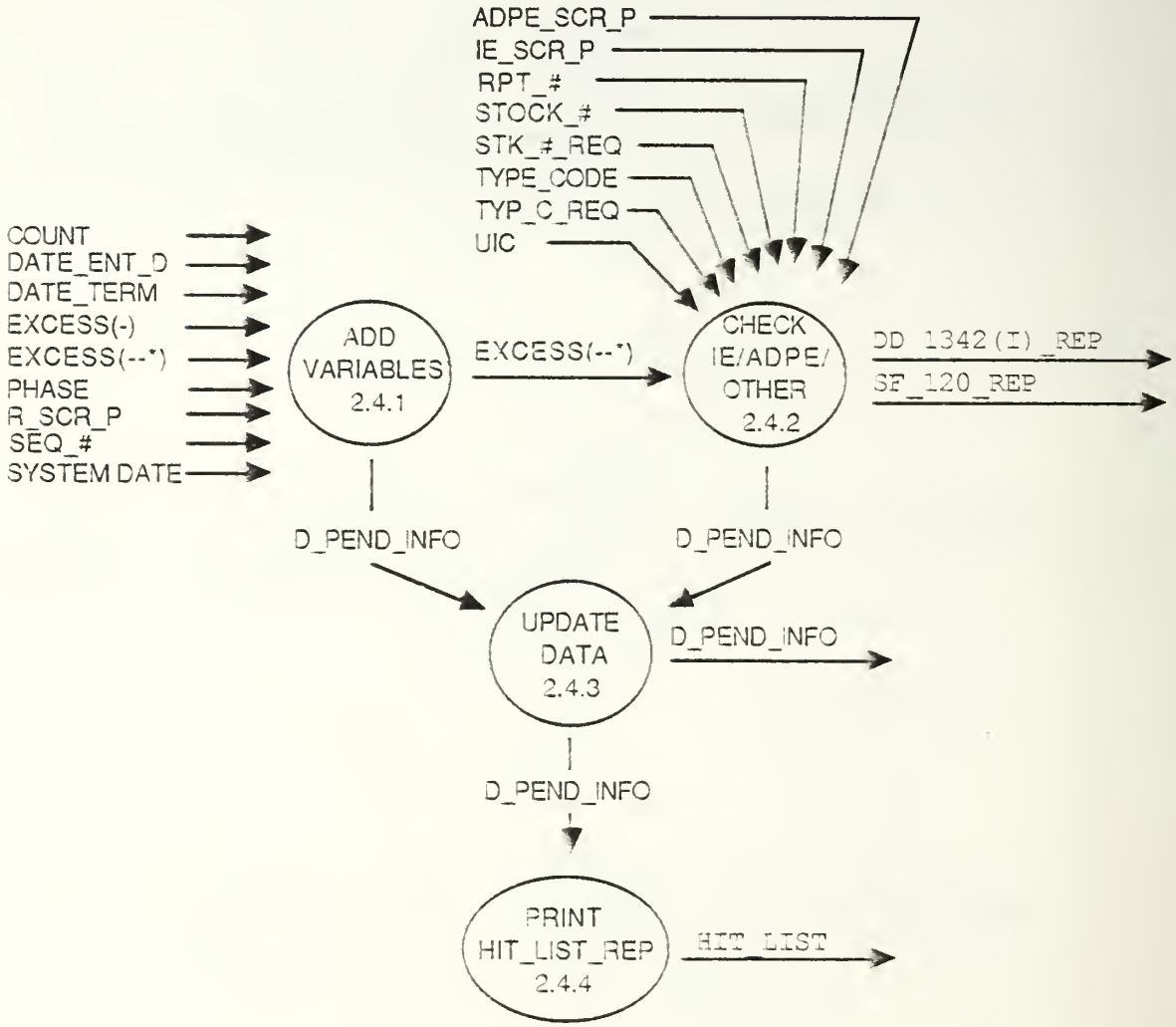
## 2.2 BUILD PMP EXCESS



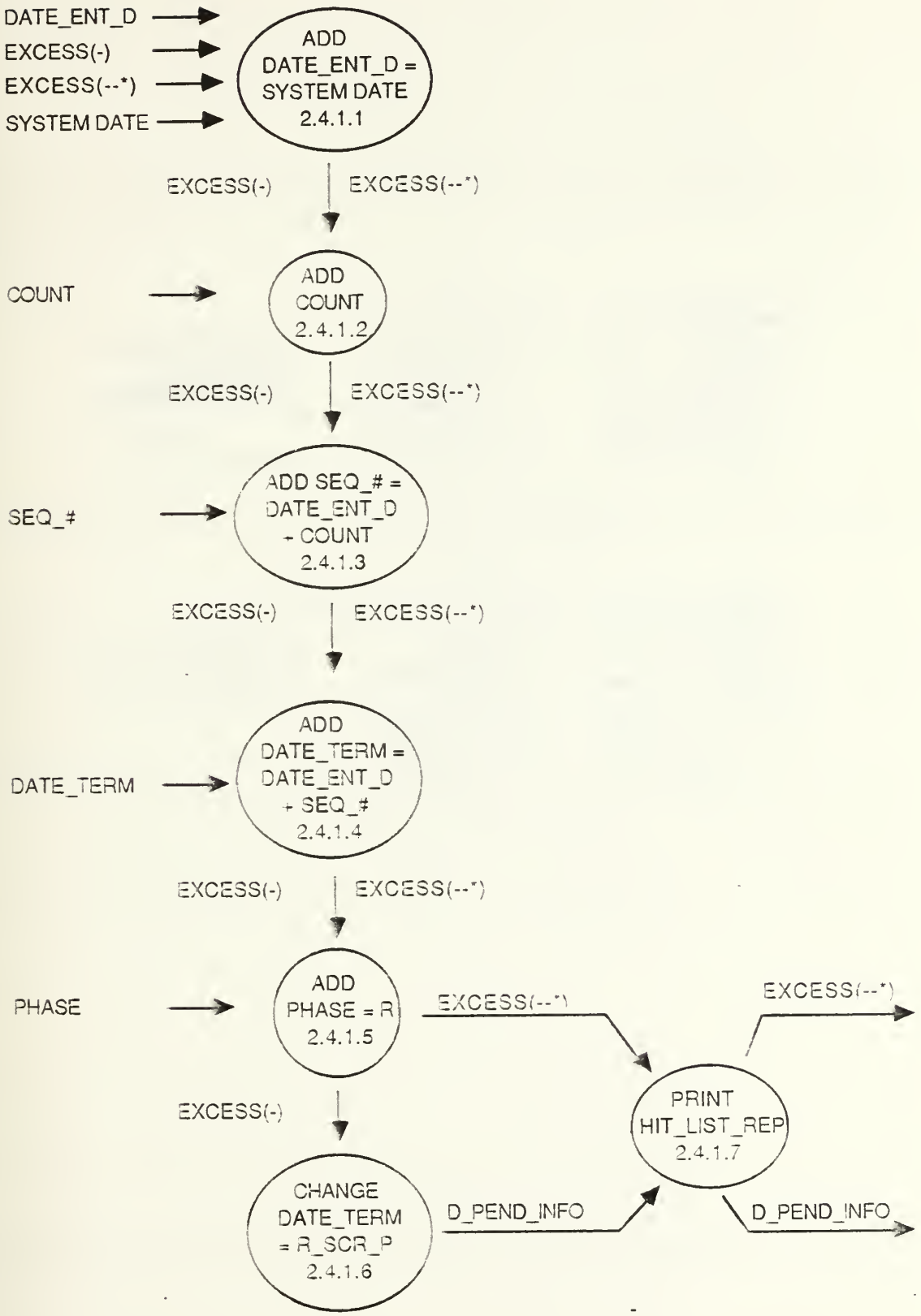
## 2.3 REQUEST DISTRIBUTE APPEND DATA



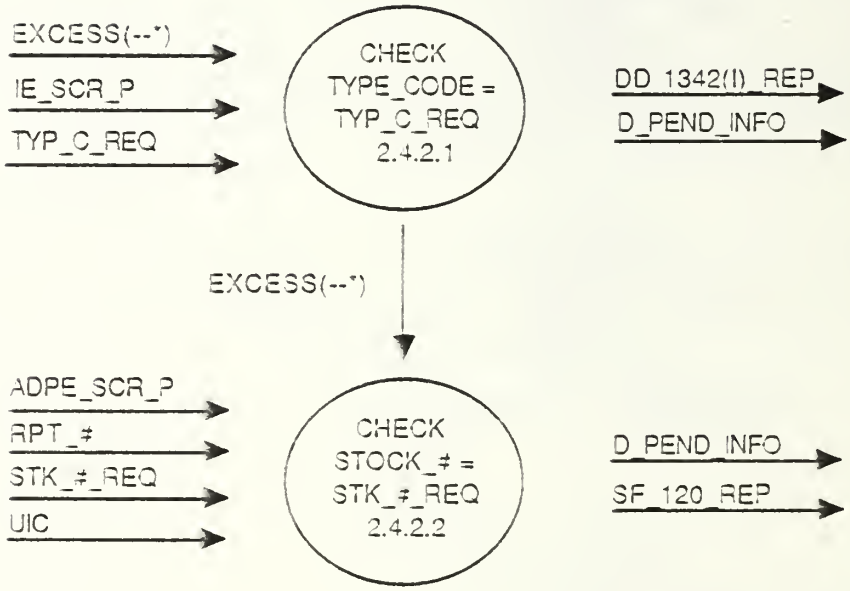
## 2.4 BUILD D_PENDING INFO



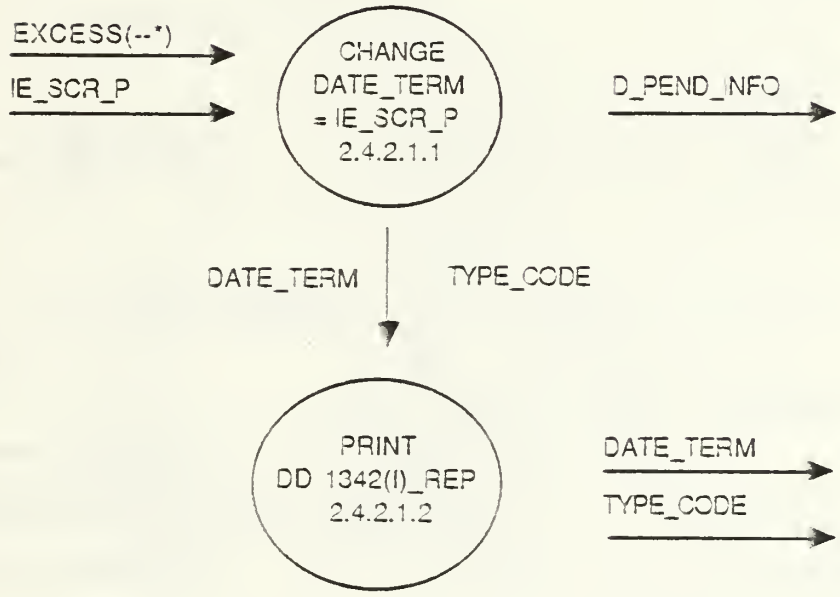
## 2.4.1 ADD VARIABLES



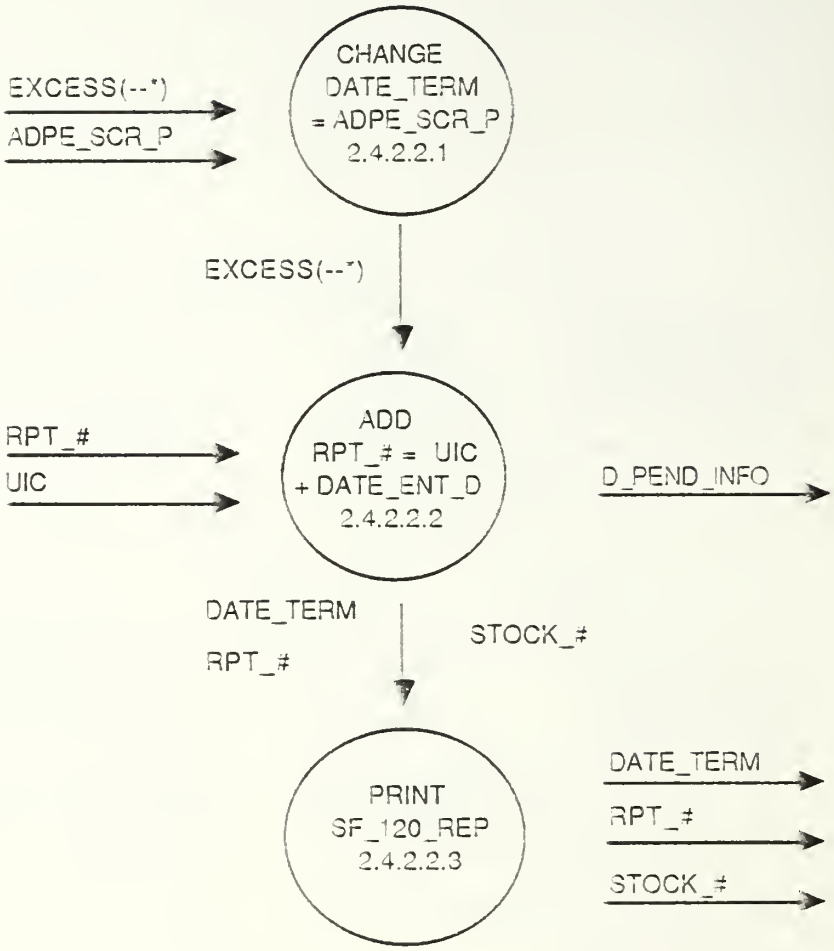
## 2.4.2 CHECH IE/ADPE/OTHER



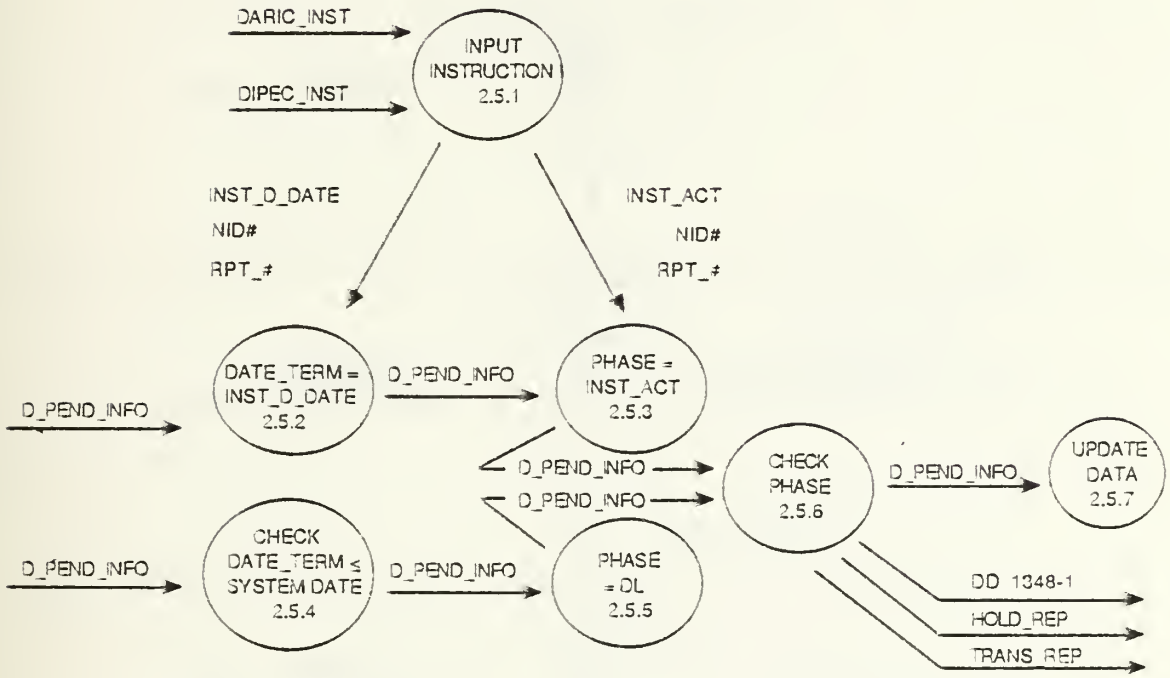
## 2.4.2.1 CHECK TYPE_CODE = TYP_C_REQ



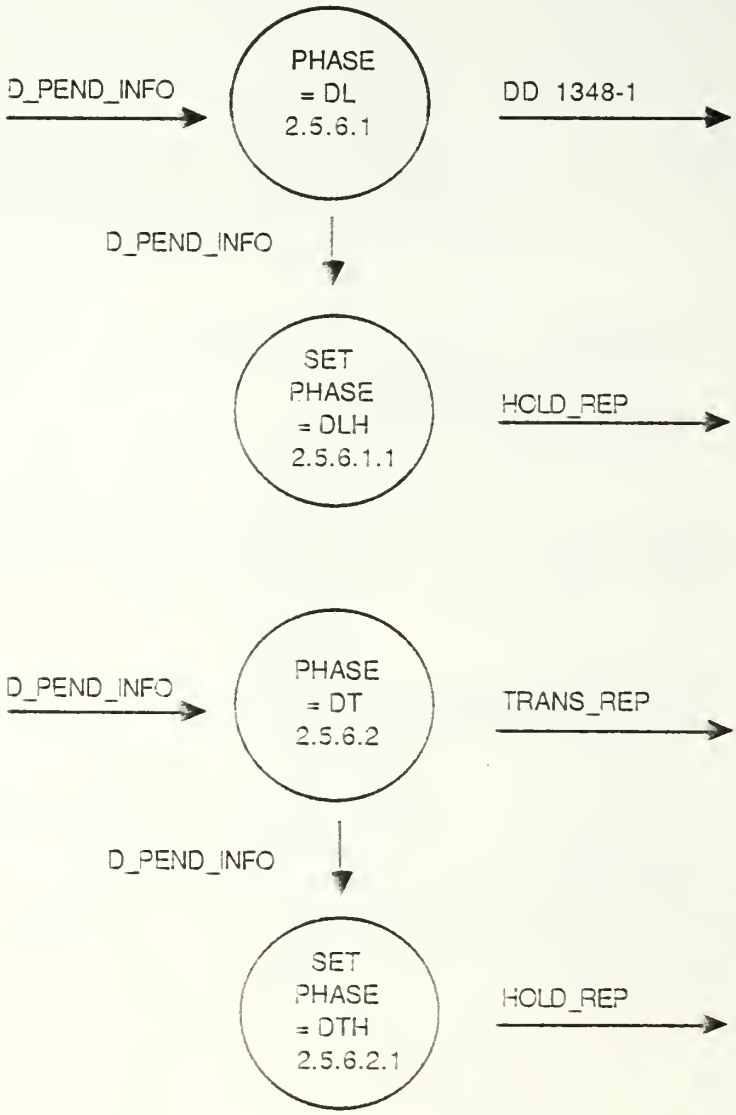
## 2.4.2.2 CHECK STOCK_# = STK_#_REQ



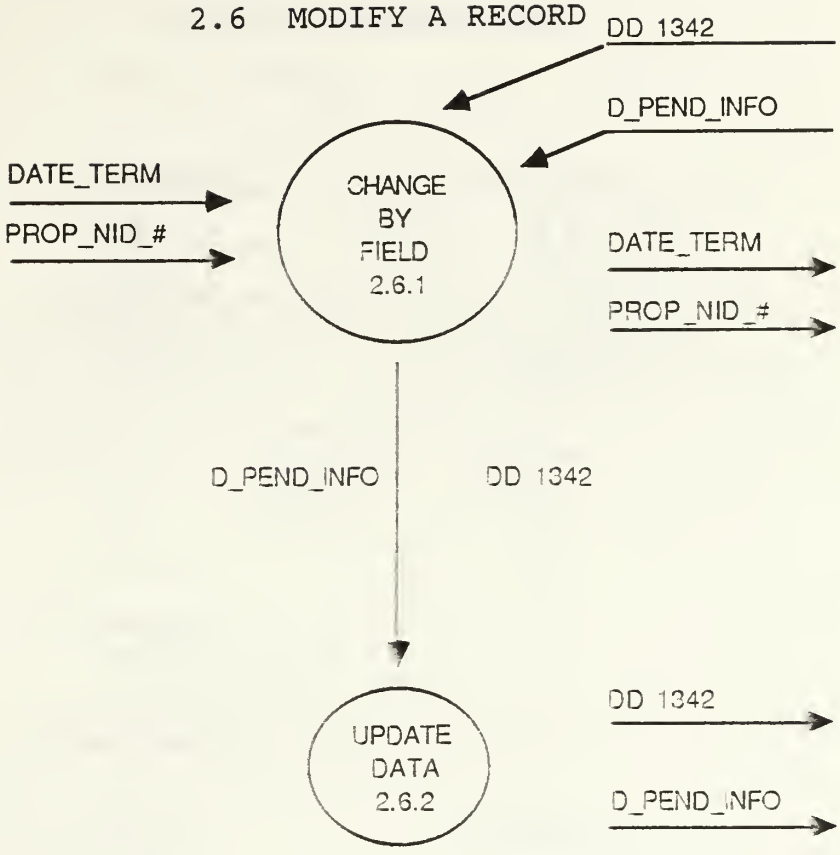
## 2.5 CHECK STATUS D_PENDING FILE

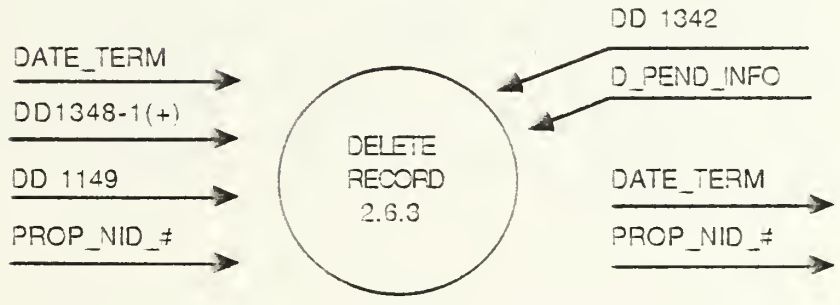


## 2.5.6 CHECK PHASE

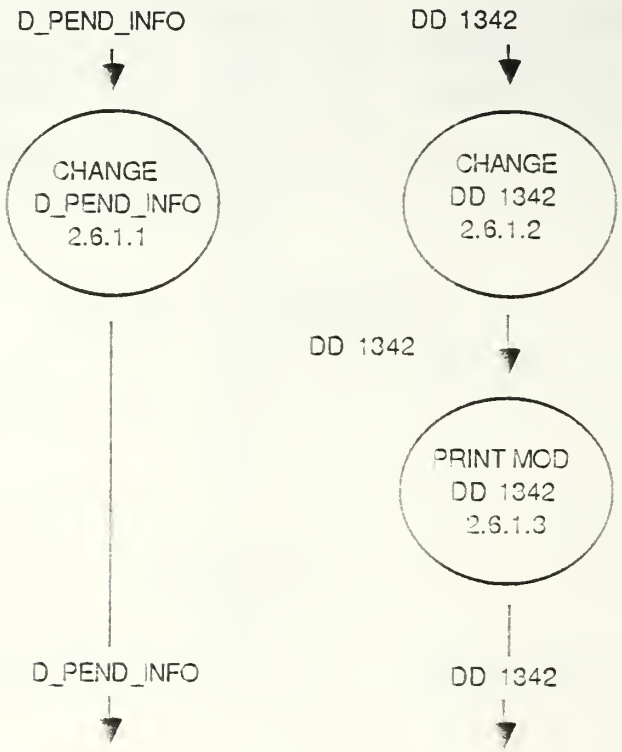


## 2.6 MODIFY A RECORD



## 2.6.1 CHANGE BY FIELD



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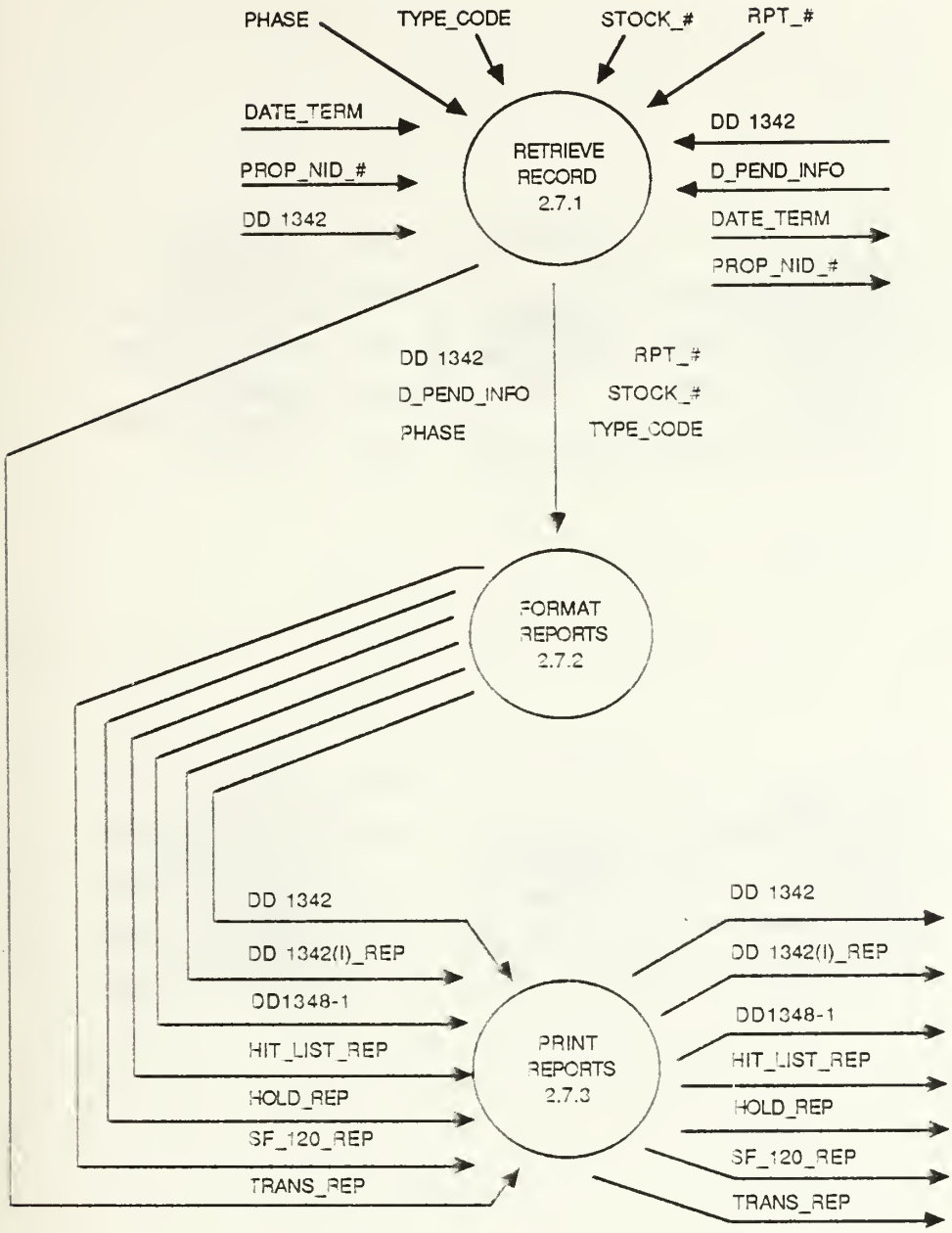

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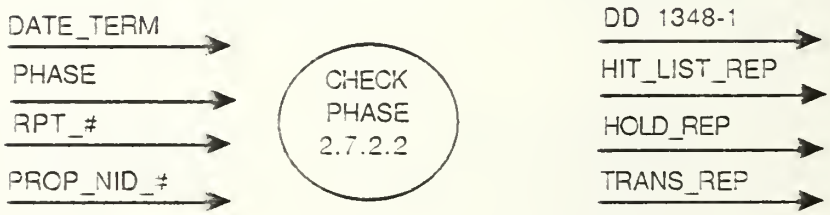

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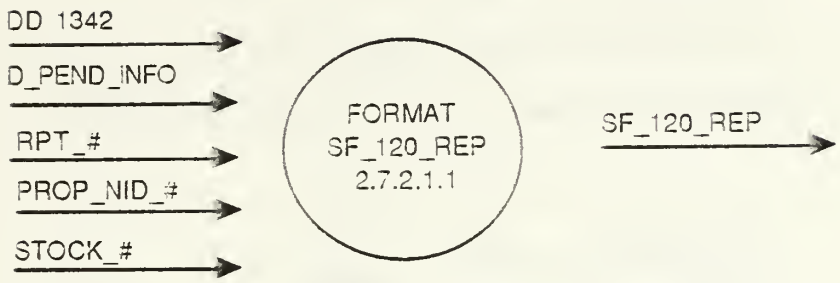
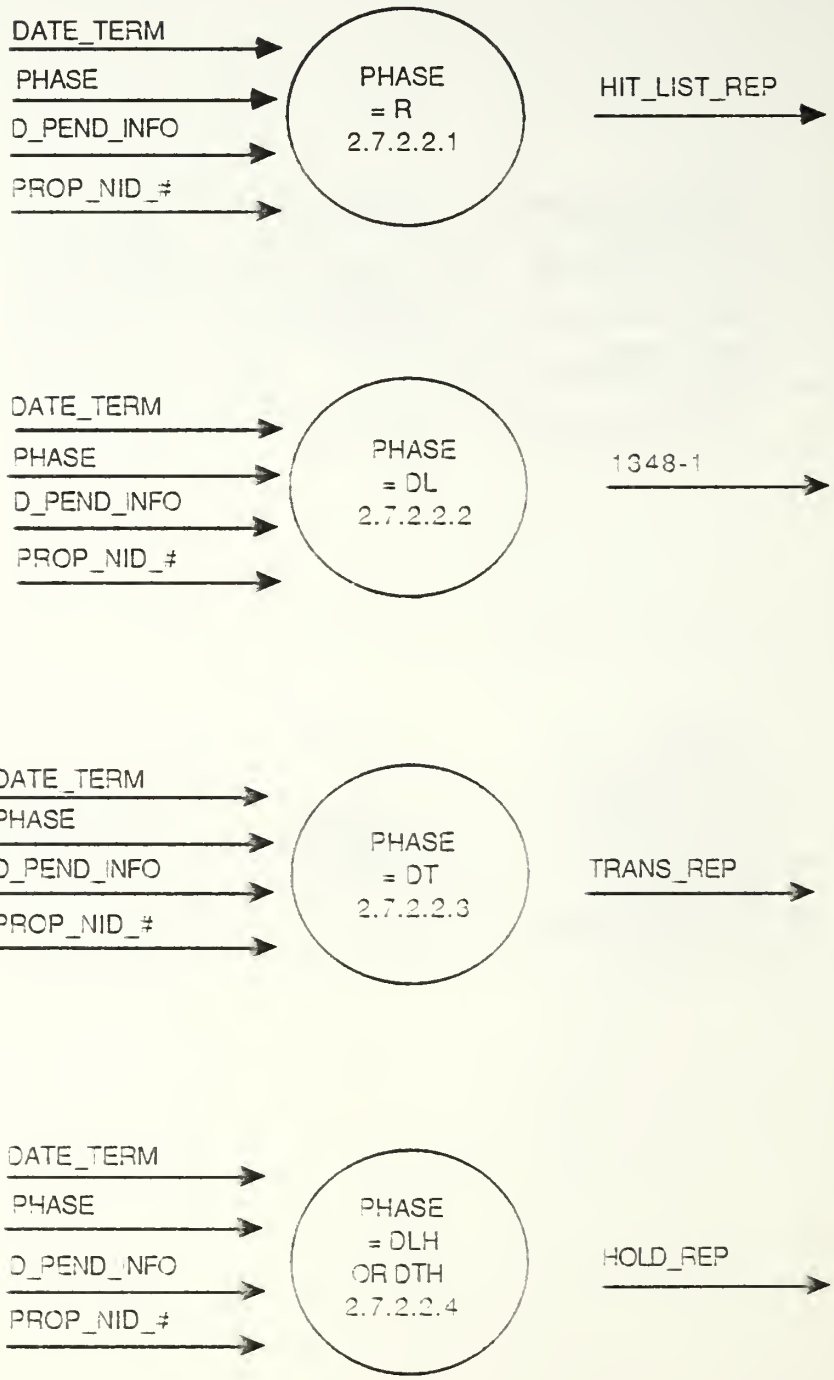
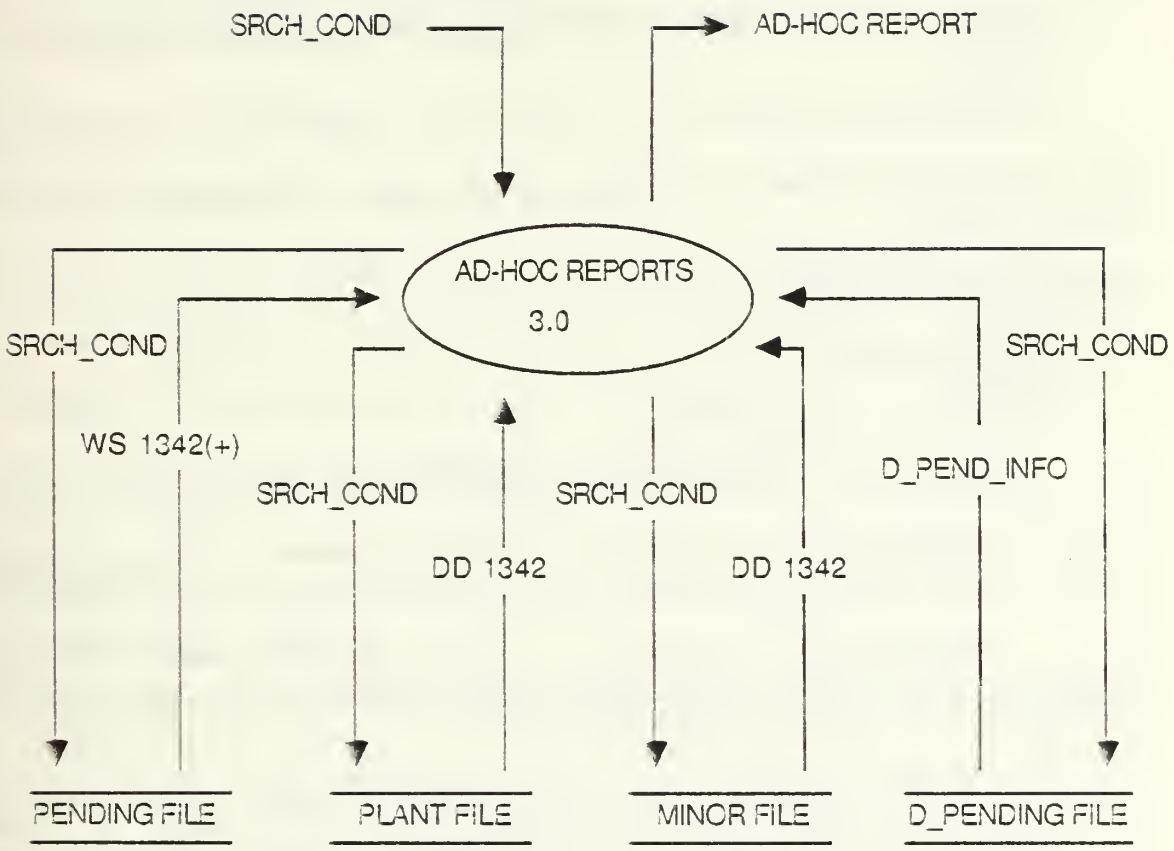


## 2.7.2.2 CHECK PHASE



# 3.0 AD-HOCS REPORTS



# APPENDIX B

## DATA DICTIONARY

The data dictionary consists of

- definition for each individual data element used in the system

- a detailed breakout of each file (starting on page 155)

The following format is used in the data dictionary for each data element :

Data Element Name
- Alias
- Description
- Format
- Module(s) used in:

A ( ) around an item indicates that it is an optional item.

A (+) immediately following a data element name indicates that it has been enhanced with other pertinent information.

A (-) immediately following a data element name indicates that it has been shortened, the number of data fields reduced to only the set required.

The data dictionary is in alphabetical order by data element name. This format was selected for ease of access by programmers, analysts, and users. "The module(s) used in:" refers to the physical module, file, or higher level composite data element in which the data element is used. The cross-reference chart in Chapter 5 may be used to derive the logical data flow module or the physical module (Hierarchy Diagram) that the data element is used in.

ACTION

- Inventory Action
- Identifies the action to be taken when conducting an inventory, print the list or compare NID_#s where a "C" is used to activate the compare function and "L" is used to activate the Print the inventory list function
- Character format of 1 character
- Module(s) used in: CONDUCT INVENTORY

ADPE_SCR_P

- ADPE Equipment Screening period
- The amount of time (which is added to DATE_TERM) that ADPE is available for screening before final disposition is determined. Currently this is 201 days.
- Numeric format consisting of 3 digits
- Module(s) used in: CHECK IE/ADPE/OTHER

COMOD_CODE

- Commodity Code
- Used for CLASS IV property only and is relative to the physical characteristics of the item.
- Character format consisting of 14 characters
- Module(s) used in: See also COMPLETED WS 1342
  See also DD 1342(-)
  Plant File

COMPLETED WS 1342

- Completed 1342 Worksheet

- WS 1342(+) + JULIAN + (COMOD_CODE) + (STOCK_#) + COST + + TYPE_CODE + (PWR_CODE) + (MFG_CODE) + (LENGTH) + (WIDTH) + (HEIGHT) + (WEIGHT) + (NON_AVL_#) + PHY_DESC + LOCATE + (QTY)
  Completed DOD Property Card that was filled in by the custiodal department.

- Number of data elements depends on the property class and type. See the Plant and Minor file structure for applicable makeup.

- Module(s) used in: COMBINE 1342 INFORMATION
  See also DD 1342

COND_C_E

- Condition Code

- Condition of the equipment when turned in for excess.

- Character format consisting of 1 character

- Module(s) used in: See also EXCESS-M
  D_PENDING FILE

CONSIGNOR

- No Alias

- The Purchasing firm ( Vendor ) a item is procured from

- Character format consisting of up to 50 characters

- Module(s) used in: NOTICE OF PENDING RECEIPT
  See also WS 1342
  MINOR FILE
  PENDING FILE
  PLANT FILE

COPY_#

- Number of Copies
- The number of copies of a form or report to be printed
- Numeric format of two digits to the left of the decimal point
- Module(s) used in: PENDING REPORT
  PRINT 1342

COST

- Item Cost
- The cost of an item when it is procured.
- Numeric format of 7 digits with no decimal point
- Module(s) use in: See also COMPLETED WS 1342
  See also DD 1342(-)
  See also EXCESS-M
  D_PENDING FILE
  MINOR FILE
  PLANT FILE

COUNT

- Sequential tracking number
- A sequential number from 01 to 99 which is assigned to each disposition processed for a corresponding DATE_ENT.
- Numeric Format consisting of 2 digits
- Module(s) used in: ADD VARIABLES
  See also SEQ_#

DARIC_INST

- DARIC disposition instruction

- RPT_# + INST_D_DATE + INST_ACT
  Disposition instruction sent to this command authorizing ADPE disposal. The instruction can direct immediate transfer to another command or require a holding period for DOD wide screening. If not picked up during screening, the item is locally disposed of.

- N/A

- Module(s) used in: DISPOSITIONS
  DISPOSITIONS MANAGEMENT
  MANAGE/STATUS D_PENDING FILE
  See also RPT_#

DATE_ENT

- Date Entered

- The month/day/year in digit format that information is entered into the PENDING FILE or Disposition process.

- Date format consisting of 8 characters including the '/'

- Module(s) used in: NOTICE OF PENDING RECEIPT
  PENDING REPORT
  See also PENDING FORMAT
  PENDING FILE (under DATE_RECV field)

DATE_ENT_D

- Date entered

- The julian date that a transaction is entered into the disposition process or on the SF_120_REP.

- Character format consisting of 4 characters

- Module(s) used in: ADD VARIABLES
  See also DATE_TERM
  See also D_PENDING_INFO
  See also RPT_#
  See also SEQ_#
  D_PENDING FILE

DATE_RECV

- Date Received
- The date PMB is notified that an item as been received.
- Date format consisting of 8 characters including the '/'
- Module(s) used in: ADD 1342(+) INFORMATION
  See also WS 1342(+)
  MINOR FILE
  PENDING FILE
  PLANT FILE

DATE_TERM

- Date Terminated
- DATE_ENT_D + SEQ_#
  Used for the following checks:
  - Set drop dates for reutilization and disposition (the julian part) ie. first 4 characters.
  - Primary key for the D_PENDING file
- Character format consisting of 10 characters.
- Module(s) used in: ADD VARIABLES
  DISPOSITIONS
  DISPOSITIONS MANAGEMENT
  MANAGE/STATUS D_PENDING FILE
  See also D_PEND_INFO
  D_PENDING FILE

DEPT_CODE

- Department Code
- The NPS code for the department
- Character format consisting of up to 4 characters
- Module(s) used in: COMPARE NID_#
  CONDUCT INVENTORY
  NOTICE OF PENDING RECEIPT
  PRINT INV LIST
  See also EXCESS-M
  See also SEARCH
  See also WS 1342
  D_PENDING FILE
  MINOR FILE
  PENDING FILE
  PLANT FILE

DD 1149

- Requisition and Invoice Shipping Document
- Used to notify the shipping command that the receiving command has accepted custody of the subject equipment.
- N/A
- Module(s) used in: DISPOSITIONS
  DISPOSITIONS MANAGEMENT
  MODIFY RECORD

DD 1342

- Official DOD Property Record Card
- Approved COMPLETED WS 1342 in final form
- N/A
- Module(s) used in: BROWSE 1342
  BUILD PMP RECORD
  COMBINE 1342 INFORMATION
  MODIFY RECORD
  RECONCILIATION OF 1342
  UPDATE FILES

DD 1342(I)_REP

- IE idle report
- Data elements unknown at this time.
  Report format used to notify DIPEC that IE is being excessed by a command.
- N/A
- Module(s) used in: BUILD D_PENDING FILE
  CHECK IE/ADPE/OTHER

DD 1342(-)

- Physical Inventory Data
- INV_DATE + NID_# + NOUN_NAME + LOCATE + MFG_SER_# + MFG_CODE + (COMOD_CODE) + (STOCK_#) + COST
  Data elements used in the inventory process.
- N/A
- Module(s) used in: See also OUT_FMT PEND

DD 1348-1

- 1348 6 Part (STUB)

- Data Elements are not currently defined.
  Used to transfer items for disposal from NPS to DRMO.

- N/A

- Module(s) used in: CHECK PHASE

DD 1348-1(+)

- 1348 6 Part signed (STUB)

- Signed(+) DD 1348 indicating that DRMO has accepted custody of property items listed on DD 1348-1.

- N/A

- Module(s) used in: DISPOSITIONS
  DISPOSITIONS MANAGEMENT
  MODIFY RECORD

DIPEC_INST

- DIPEC disposition instruction

- NID_# + INST_D_DATE + INST_ACT
  Disposition instruction sent to this command authorizing IE disposal. The instruction can direct immediate transfer to another command or require a holding period for DOD wide screening. If not picked up during screening, the item is locally disposed of.

- N/A

- Module(s) used in: DISPOSITIONS
  DISPOSITIONS MANAGEMENT
  MANAGE/STATUS D_PENDING FILE

D_PEND_INFO

- Disposition Pending Information

- EXCESS(-) + EXCESS(--*) + DATE_TERM + DATE_ENT_D + PHASE
  Records /transactions in various phases of the disposition process.

- N/A

- Module(s) used in: BUILD D_PENDING FILE
  CHECK IE_ADPE_OTHER
  CHECK PHASE
  INPUT INSTRUCTIONS
  MANAGE/STATUS D_PENDING FILE
  MODIFY RECORD
  STORE DATA

EXCESS-M

- Excess Property Memo

- COND_C_E + POC_N + POC_P_# + PROP_NID_# + QTY_E + COST + DEPT_CODE + MFG_MOD_# + MFG_NAME + MFG_SER_# + MFG_YR + NOUN_NAME + PHYS_DESC + STOCK_#
  Used to notify supply of an item(s) that are no longer needed by a department.

- N/A

- Module(s) used in: DISPOSITIONS
  INPUT OTHER EXCESS(-)
  INPUT PLANT/MINOR EXCESS(--)
  INPUT TRANSACTIONS
  PROCESS DAILY TRANSACTIONS

EXCESS(-)

- Excess property memo for NON PMPS items.

- EXCESS-M (with PROP_NID_# set to all zeros)

- N/A

- Module(s) used in: ADD AVRIABLES
  BUILD D_PENDING FILE
  INPUT OTHER EXCESS(-)
  INPUT TRANSACTIONS
  PROCESS DAILY TRANSACTIONS
  See also EXCESS-M

EXCESS(--)

- Plant or Minor Property items for Excess
- COND_C_E + POC_N + POC_P_# + PROP_NID_# + QTY_E
  The information used from the EXCESS-M to locate the corresponding DD 1342. These two sources are then combined to form an EXCESS(--*).
- N/A
- Module(s) used in: BUILD PMP RECORD
  BUILD D_PENDING FILE
  INPUT PLANT/MINOR EXCESS(--)
  INPUT TRANSACTIONS
  PROCESS DAILY TRANSACTIONS
  See also EXCESS-M

EXCESS(--*)

- Combined DD 1342 and Excess(--)
- EXCESS(--) + DD 1342
- N/A
- Module(s) used in: ADD VARIABLES
  BUILD PMP RECORD
  CHECK IE/ADPE/OTHER

HEIGHT

- Item Height
- Item height in inches or feet
- Numeric Character format of 4 characters with no decimal
- Module(s) used in: See also COMPLETED WS 1342
  PLANT FILE

HIT_LIST_REP

- Hit List Report

- DATE_TERM + PROP_NID_# + NOUN_NAME + DEPT_CODE + COND_C_E + QTY_E + RPT_#
  A list of items available for reutilization within the local command. Normal duration is 21 days, but IE is up to 90 days and ADPE is up to 201 days.

- N/A

- Module(s) used in: ADD VARIABLES
  BUILD D_PENDING FILE

HOLD_REP

- Hold Report

- DATE_TERM + PROP_NID_# + NOUN_NAME + DEPT_CODE.
  Used to manage items being held for local disposition or transfer and awaiting DD 1149 or DD 1348-1(+).

- N/A

- Module(s) used in: CHECK PHASE

IE_SCR_P

- IE Screening Period

- The amount of time that IE is available for screening before final disposition. Currently this is 90 days.

- Numeric format consisting of 2 digits

- Module(s) used in: CHECK IE/ADPE/OTHER

IN_FMT WS 1342(C)

- No Alias

- Format that combines the pending WS 1342(+) with the COMPLETED WS 1342 resulting in a DD 1342.

- Module(s) used in: COMBINE 1342 INFORMATION

IN_FMT WS 1342(+)

- WS 1342(+) Input Format
- Formatted 1342 Worksheet used for WS 1342(+) data input
- N/A
- Module(s) used in: ADD WS 1342(+) INFORMATION

INST_ACT

- Instruction Action, PHASE
- DL or DT
  The type of action authorized by DARIC or DIPEC for an item.
- N/A
- Module(s) used in: INPUT INSTRUCTIONS

INST_D_DATE

- Automatic release date
- The julian date equipment can be disposed of locally as determined by DARIC or DIPEC. Used to replace the first 4 characters of DATE_TERM.
- Julian date format of 4 characters.
- Module(s) used in: INPUT INSTRUCTIONS

INV_DATE

- Inventory Date
- The date in month/day/year form of the last official physical inventory of the item
- Date format of 8 characters; 2 month digits, 2 day digits, and 2 year digits
- Module(s) used in: COMPARE NID_#
  See also DD 1342(-)
  See also INV_PROP
  PLANT FILE
  MINOR FILE

INV_PROP

- Inventory date update
- INV_DATE + PROP_CODE + NID_#
- N/A
- Module(s) used in: CONDUCT INVENTORY

JULIAN

- Julian Date
- Date format of 4 digits where the first digit is the last digit of the year and the last three digits of the Julian date are the day of the year
- Character format consisting of 4 numeric characters
- Module(s) used in: See also COMPLETED WS 1342
  MINOR FILE
  PLANT FILE

LENGTH

- Item Length
- Item length in inches or feet
- Numeric Character format of 4 characters with no decimal
- Module(s) used in: See also COMPLETED WS 1342
  PLANT FILE

LOCATE

- Present location
- The building and room number the item is located in
- Character format consisting of 8 characters. The first four for the building number, the second four for the room number
- Module(s) used in: See also COMPLETED WS 1342
  See also DD 1342(-)
  PLANT FILE

MFG_CODE

- Manufacture Code
- The code used by the supply system to determine the manufacture of an item
- Character format consisting of up to 5 characters
- Module(s) used in: See also COMPLETED WS 1342
  See also DD 1342(-)
  PLANT FILE

MFG_MOD_#

- Manufacture Model Number
- The number a manufacture assigns to a particular model or product line
- Character format consisting of up to 15 characters
- Module(s) used in: NOTICE OF PENDING RECEIPT
  See also EXCESS-M
  See also WS 1342
  D_PENDING FILE
  MINOR FILE
  PENDING FILE
  PLANT FILE

MFG_NAME

- Manufacture Name
- The name of the manufacture of the item.
- Character format consisting of up to 30 characters
- Module(s) used in: NOTICE OF PENDING RECEIPT
  See also EXCESS-M
  See also WS 1342
  D_PENDING FILE
  MINOR FILE
  PENDING FILE
  PLANT FILE

MFG_SER_#

- Manufacture Serial Number
- A series of characters to uniquely identify a particular component produced by a manufacture.
- Character format consisting of 20 characters
- Module(s) used in: ADD 1342(+) INFORMATION
  See also DD 1342(-)
  See also EXCESS-M
  See also WS 1342(+)
  D_PENDING FILE
  MINOR FILE
  PENDING FILE
  PLANT FILE

MFG_YEAR

- Year of Manufacture
- The year an item has completed its manufacturing process
- Character format of 3 characters representing for the last two digits of the year plus an "E" for items with estimated years of completed manufacture.
- Module(s) used in: See also COMPLETED WS 1342
  See also EXCESS-M
  D_PENDING FILE
  MINOR FILE
  PLANT FILE

NID_#

- Navy Identification Tag Number
- Unique number locally generated used to track the custody of a Plant or Minor Property item at NPS. The first 5 numbers in the sequence are always 62211 for items originally tagged at NPS
- Character format consisting of 12 characters
- Module(s) used in: ADD 1342(+) INFORMATION
  COMPARE NID_#
  DELETE DISP_PEND RECORD
  MANAGE/STATUS D_PENDING FILE
  MODIFY 1342
  See also DD 1342(-)
  See also EXCESS-M
  See also PROP_NID_#
  See also WS 1342(+)
  D_PENDING FILE
  MINOR FILE
  PENDING FILE
  PLANT FILE

NON_AVL_#

- Certificate of Non Availability Number
- Number assigned by DIPEC authorizing purchase of IE
- Character format consisting of up to 16 characters
- Module(s) used in: See also COMPLETED WS 1342
  PLANT FILE

NOUN_NAME

- Noun Name
- The common nomenclature the piece of equipment goes by
- Character format consisting of up to 30 characters
- Module(s) used in: NOTICE OF PENDING RECEIPT
  See also DD 1342(-)
  See also EXCESS-M
  See also WS 1342
  D_PENDING FILE
  MINOR FILE
  PENDING FILE
  PLANT FILE

OUT_FMT DD 1342

- Output DD 1342 DOD Property Record Card
- Print format of the DD 1342. The constants used in printing the DD 1342 are located at the end of the alphabetical data element listing on page 154.
- N/A
- Module(s) used in: PRINT 1342

OUT_FMT DD 1342(-)

- Inventory Report
- DD 1342(-) formatted for printing the inventory report of items to be inventoried or items missing after an inventory
- N/A
- Module(s) used in: PRINT INV LIST

OUT_FMT PENDING

- Pending item report
- The items in the pending file that were entered past a certain DATE_ENT and with a certain PEND_STAT formatted for a printed report
- N/A
- Module(s) used in: PENDING REPORT

OUT_FMT WS 1342(+)

- No Alias
- Formatted 1342 enhanced worksheet used for printing
- N/A
- Module(s) used in: PRINT WS 1342(+)

PENDING FORMAT

- No Alias
- WS 1342 + PEND_STAT + DATE_ENT
- N/A
- Module(s) used in: NOTICE OF PENDING RECEIPT
  PENDING REPORT

PEND_SRCH

- Pending Report search parameters
- SRCH_DATE + PEND_STAT
- N/A
- Module(s) used in: PENDING REPORT

PEND_STAT

- Pending Status Code
- One letter code to determine if the item is pending delivery, or already received or that the complete WS 1342 has not been received by PMB
- Character format consisting of 1 character
- Module(s) used in: ADD 1342(+) INFORMATION
  NOTICE OF PENDING RECEIPT
  PENDING REPORT
  See also PENDING FORMAT
  PENDING FILE

PHASE

- Disposition Phase

- Distinguishes which phase of the disposition process an item is in according to the following codes
  DL = Item will be disposed by DRMO.
  DLH = Accepted to be disposed of by DRMO, or available for screening by all DOD.
  DT = Item will be transferred to another command.
  DTH = Awaiting receipt for transferred item.
  R = Item is available for reutilization.

- Character format consisting of 3 characters.

- Module(s) used in: ADD VARIABLES
  See also D_PEND_INFO
  D_PENDING FILE

PHY_DESC

- Physical Description

- Physical description of item including electrical requirements

- Character format consisting of up to 256 characters with provisions for more for Plant Property and 20 characters for Minor Property

- Module(s) used in: See also COMPLETED WS 1342
  See also EXCESS-M
  D_PENDING FILE
  MINOR FILE
  PLANT FILE

PO_#

- Purchase Order Number
- A unique number locally generated used to track a purchase order
- Character format consisting of up to 20 characters
- Module(s) used in: GET WS 1342
  NOTICE OF PENDING RECEIPT
  See also WS 1342
  MINOR FILE
  PENDING FILE
  PLANT FILE

POC_N

- Point of Contact Name
- The name of the person who is to to contacted concerning excess property.
- Character format consisting of 20 characters
- Module(s) used in: See also EXCESS-M
  D_PENDING FILE

POC_P_#

- Point of Contact phone number
- The telephone number extension of the POC_N
- Character format of 4 characters.
- Module(s) used in: See also EXCESS-M
  D_PENDING FILE

PROP_CODE

- Property Code
- One letter code to determine the type of property and other special characteristics of the item such as Plant, Minor, Audiovisual, and so forth.
- Character format consisting of 1 character
- Module(s) used in: CONDUCT INVENTORY
  NOTICE OF PENDING RECEIPT
  See also PROP_NID_#
  See also SEARCH
  See also WS 1342
  D_PENDING FILE
  MINOR FILE
  PENDING FILE
  PLANT FILE

PROP_NID_#

- No Alias
- PROP_CODE + NID_#
- N/A
- Module(s) used in: ACQUISITIONS
  GET WS 1342(+)
  MODIFY 1342
  PRINT 1342
  RECONCILIATION OF 1342
  See also EXCESS-M

PWR_CODE

- Power Code
- The code from REF 2 that determines the power requirements of an item
- Character format consisting of 2 characters
- Module(s) used in: See also COMPLETED WS 1342
  PLANT FILE

QTY

- Quantity
- The quantity or number of Minor Property items under a NID_#
- Numeric format of 3 digits with no decimal point
- Module(s) used in: BUILD PMP RECORD
  See also COMPLETED WS 1342
  MINOR FILE

QTY_E

- Quantity Excessed
- Quantity being excessed on EXCESS-M. This might differ from the quantity indicated on the DD 1342.
- Numeric format consisting of 3 digits.
- Module(s) used in: BUILD PMP RECORD
  See also D_PEND_INFO
  D_PENDING FILE

REQN_#

- Requisition (Stub) Number
- A unique number to track an item being procured through the supply system.
- Character format consisting of up to 20 characters
- Module(s) used in: NOTICE OF PENDING RECEIPT
  See also WS 1342
  MINOR FILE
  PENDING FILE
  PLANT FILE

RPT_#

- Report Number

- UIC + DATE_ENT_D
  This number is assigned to the SF_120_REP (block 1) and is the only way to match incoming DARIC_INST with a D_PEND_INFO record.

- Character format consisting of 11 characters

- Module(s) used in: CHECK IE/ADPE/OTHER
  MANAGE/STATUS D_PENDING FILE
  See also D_PEND_INFO
  D_PENDING FILE

R_SCR_P

- Reutilization Screening Period

- The amount of time that an item is available for reutilization locally before being disposed of. Currently this is 21 days.

- Numeric format consisting of 2 digits

- Module(s) used in: ADD VARIABLES

SEARCH

- Inventory Report search parameters

- SRCH_DATE + PROP_CODE + DEPT_CODE

- N/A

- Module(s) used in: CONDUCT INVENTORY
  PENDING REPORT

SEQ_#

- Sequence Number

- Is comprised of the DATE_ENT_D plus COUNT. Is used to identify each individual disposition.

- Character format of 6 characters.

- Module(s) used in: ADD VARIABLES
  See also DATE_TERM

SF_120_REP

- ADPE availability for Disposition report
- Data elements are not currently defined.
  Report format that is sent to DARIC for notification
  that an ADPE item is available for reutilization.
- N/A
- Module(s) used in: BUILD D_PENDING FILE
  CHECK IE/ADPE/OTHER

SRCH_COND

- Search Condition Criteria
- File search conditions used to generate AD-HOC REPORTS.
- N/A
- Module(s) used in: AD-HOC REPORTS

SRCH_DATE

- Search Date
- A date used for file search in month/day/year form
- Date format of 8 characters; 2 month digits, 2 day
  digits, and 2 year digits
- Module(s) used in: COMPARE NID_#
  PRINT INV LIST
  See also SEARCH

STK_#_REQ

- Stock Number for ADPE
- 7xxx where the xxx represents the last three digits of the ADPE stock number. The first character, 7, indicates the item is an ADPE item.
- Character format consisting of a 7 followed by 3 characters.
- Module(s) used in: CHECK IE/ADPE/OTHER

STOCK_#

- Standard Stock Number
- The number given an item by the DOD Supply System. Not used with Class IV items
- Character format consisting of 4 characters
- Module(s) used in: See also COMPLETED WS 1342
  See also DD 1342(-)
  See also EXCESS-M
  D_PENDING FILE
  MINOR FILE
  PLANT FILE

SYSTEM DATE

- Today's Date in the computer system
- The date of today from the system in julian format. The dBASE III PLUS command to get the date is DATE() which must then be converted to Julian.
- Date format with the month/day/year in numeric format.
- Module(s) used in: ADD VARIABLES
  CHECK STATUS

TEMP FILE

- Temporary File

- DD 1342 + EXCESS(-) + EXCESS(--)
  Used as a temporary file while building a D_PEND_INFO record.

- N/A

- Module(s) used in: ADD VARIABLES
  BUILD D_PENDING FILE
  BUILD PMP RECORD
  CHECK IE/ADPE/OTHER
  INPUT PLANT/MINOR EXCESS(--)
  INPUT OTHER EXCESS(-)

TRANS_REP

- Transfer Report

- RPT_# + PROP_NID_# + NOUN_NAME + DATE_TERM + DEPT_CODE
  Used to ship an item from this command to another. Issue Control sends this report to the Frieght specialist as a transmittial letter.

- N/A

- Module(s) used in: CHECK PHASE

TYPE_CODE

- Type Code

- Determines the class of the property.

- Character format consisting of 1 character

- Module(s) used in: See also COMPLETED WS 1342
  See also EXCESS-M
  D_PENDING FILE
  MINOR FILE
  PLANT FILE

TYP_C_REQ

- Type code requirement
- A number, if equal to one then the item is IE.
- Numeric format consisting of 1 digit
- Module(s) used in: CHECK IE/ADPE/OTHER

WEIGHT

- Item Weight
- Item weight in pounds
- Numeric Character format of 5 characters with no decimal
- Module(s) used in: See also COMPLETED WS 1342
  PLANT FILE

WIDTH

- Item Width
- Item width in inches or feet
- Numeric Character format of 4 characters with no decimal
- Module(s) used in: See also COMPLETED WS 1342
  PLANT FILE

WS 1342

- Property Worksheet
- PO_# + REQN_# + MFG_NAME + MFG_MOD_# + NOUN_NAME + CONSIGNOR + DEPT_CODE + PROP_CODE
- N/A
- Module(s) used in: ADD 1342(+) INFORMATION
  EQUIPMENT RECEIPT
  See also WS 1342(+)
  See also PENDING FORMAT

WS 1342(+)

- Enhanced WS 1342 Worksheet
- WS 1342 + NID_# + DATE_RECV + MFG_SER_#
- N/A
- Module(s) used in: ADD 1342(+) INFORMATION
  EQUIPMENT RECEIPT
  COMBINE 1342 INFORMATION
  GET 1342(+)
  PRINT WS 1342(+)
  RECONCILIATION OF 1342
  UPDATE PENDING FILE
  See also COMPLETED WS 1342

UIC

- Unit Identification Code
- A character format that designates this command.
- Character format consisting of 11 characters.
- Module(s) used in: CHECK IE/ADPE/OTHER
  See also RPT_#

## DD 1342 CONSTANTS

The following items remain constant in the printing of the DD 1342 and should be hard programmed into the print function of this module. The module is called PRINT 1342.

| Item | Value | Block on DD 1342 |
|---|---|---|
| - Status Code | 1A | 10 |
| - Service Code | 1 | 11 |
| - Command Code | N00011 | 12 |
| - Administrative Office Code | N00228 | 13 |
| - Present Location | Naval Postgraduate School<br>No Address RM. _____<br>Monterey, CA BLDG._____<br>( Most of Block 26 ) | |
| - Possessor Code | 62271(7685435) | 29 |
| - Condition Code | A | 52 |
| - Validation | Supervisor Name | 57 |

D_PENDING FILE

| Data Element | Type | Size |
|---|---|---|
| COND_C_E | Character | 2 |
| COST | Numeric | 7 |
| DATE_ENT_D | Julian Date | 4 |
| DATE_TERM | Character | 10 |
| DEPT_CODE | Character | 4 |
| MFG_MOD_# | Character | 15 |
| MFG_NAME | Character | 30 |
| MFG_SER_# | Character | 20 |
| MFG_YEAR | Character | 3 |
| NID_# | Character | 16 |
| NOUN_NAME | Character | 30 |
| PHASE | Character | 3 |
| PHY_DESC | Character | 256 |
| POC_N | Character | 20 |
| POC_P_# | Character | 4 |
| PROP_CODE | Character | 1 |
| QTY_E | Numeric | 3 |
| RPT_# | Character | 11 |
| STOCK_# | Character | 4 |
| TYPE_CODE | Character | 1 |
| | Total | 444 |

Average number of records for D_PENDING file is 1,000

Disk Storage for 1,000 indexed records is approximately 0.46 mb

444 bytes/records * 1,000 records + [(Field Length (DATE_TERM = 10) + Pointer Length of 4 bytes) * 1000 records * 1.3] = 0.46 mb

MINOR FILE

| Data Element | Type | Size |
|---|---|---|
| CONSIGNOR | Character | 50 |
| COST | Numeric | 7 |
| DATE_RECV | Date | 8 |
| DEPT_CODE | Character | 4 |
| INV_DATE | Date | 8 |
| JULIAN | Character | 4 |
| LOCATE | Character | 8 |
| MFG_MOD_# | Character | 15 |
| MFG_NAME | Character | 30 |
| MFG_SER_# | Character | 20 |
| MFG_YEAR | Character | 3 |
| NID_# | Character | 12 |
| NOUN_NAME | Character | 30 |
| PHY_DESC | Character | 20 |
| PO_# | Character | 20 |
| PROP_CODE | Character | 1 |
| QTY | Numeric | 3 |
| REQN_# | Character | 20 |
| STOCK_# | Character | 4 |
| TYPE_CODE | Character | 1 |
| | Total | 268 |

Average number of records for Pending file is 60,000

Disk Storage for 60,000 indexed records is approximately 17.32 mb

268 bytes/records * 60,000 records + [(Field Length (NID_# = 12) + Pointer Length of 4 bytes) * 60,000 records * 1.3] = 17.32 mb

PENDING FILE

| Data Element | Type | Size |
|---|---|---|
| CONSIGNOR | Character | 50 |
| DATE_RECV | Date | 8 |
| DEPT_CODE | Character | 4 |
| MFG_MOD_# | Character | 15 |
| MFG_NAME | Character | 30 |
| MFG_SER_# | Character | 20 |
| NID_# | Character | 12 |
| NOUN_NAME | Character | 30 |
| PEND_STAT | Character | 1 |
| PO_# | Character | 20 |
| PROP_CODE | Character | 1 |
| REQN_# | Character | 20 |
| | Total | 211 |

Average number of records for Pending file is 1000

Disk Storage for 1000 indexed records is approximately 0.24 mb

211 bytes/records * 1000 records + [(Field Length (PO_# = 20) + Pointer Length of 4 bytes) * 1000 records * 1.3] = 0.24 mb

PLANT FILE

| Data Element | Type | Size | |
|---|---|---|---|
| COMOD_CODE | Character | 14 | |
| CONSIGNOR | Character | 50 | |
| COST | Numeric | 7 | |
| DATE_RECV | Date | 8 | |
| DEPT_CODE | Character | 4 | |
| HEIGHT | Character | 4 | |
| INV_DATE | Date | 8 | |
| JULIAN | Character | 4 | |
| LENGTH | Character | 4 | |
| LOCATE | Character | 8 | |
| MFG_CODE | Character | 5 | |
| MFG_MOD_# | Character | 15 | |
| MFG_NAME | Character | 30 | |
| MFG_SER_# | Character | 20 | |
| MFG_YEAR | Character | 3 | |
| NID_# | Character | 12 | |
| NON_AVL_# | Character | 16 | |
| NOUN_NAME | Character | 30 | |
| PHY_DESC | Character | 256 | w/ memo |
| PO_# | Character | 20 | |
| PROP_CODE | Character | 1 | |
| PWR_CODE | Character | 2 | |
| REQN_# | Character | 20 | |
| STOCK_# | Character | 4 | |
| TYPE_CODE | Character | 1 | |
| WEIGHT | Character | 5 | |
| WIDTH | Character | 4 | |
| | Total | 555 | |

Average number of records for Pending file is 5,000

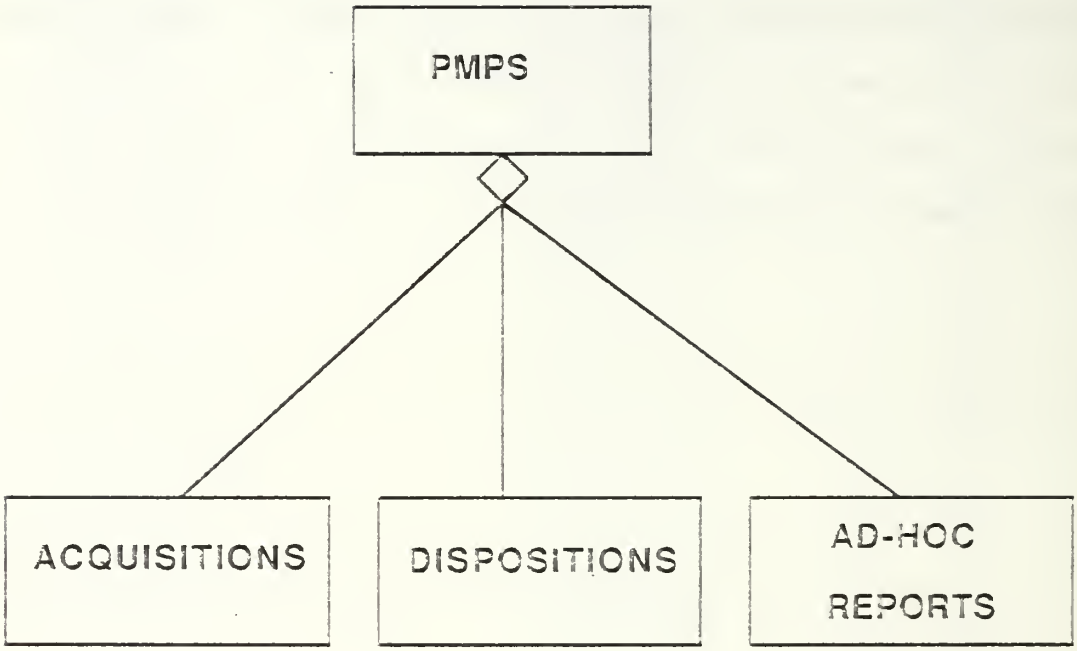
Disk Storage for 5,000 indexed records is approximately 2.89 mb

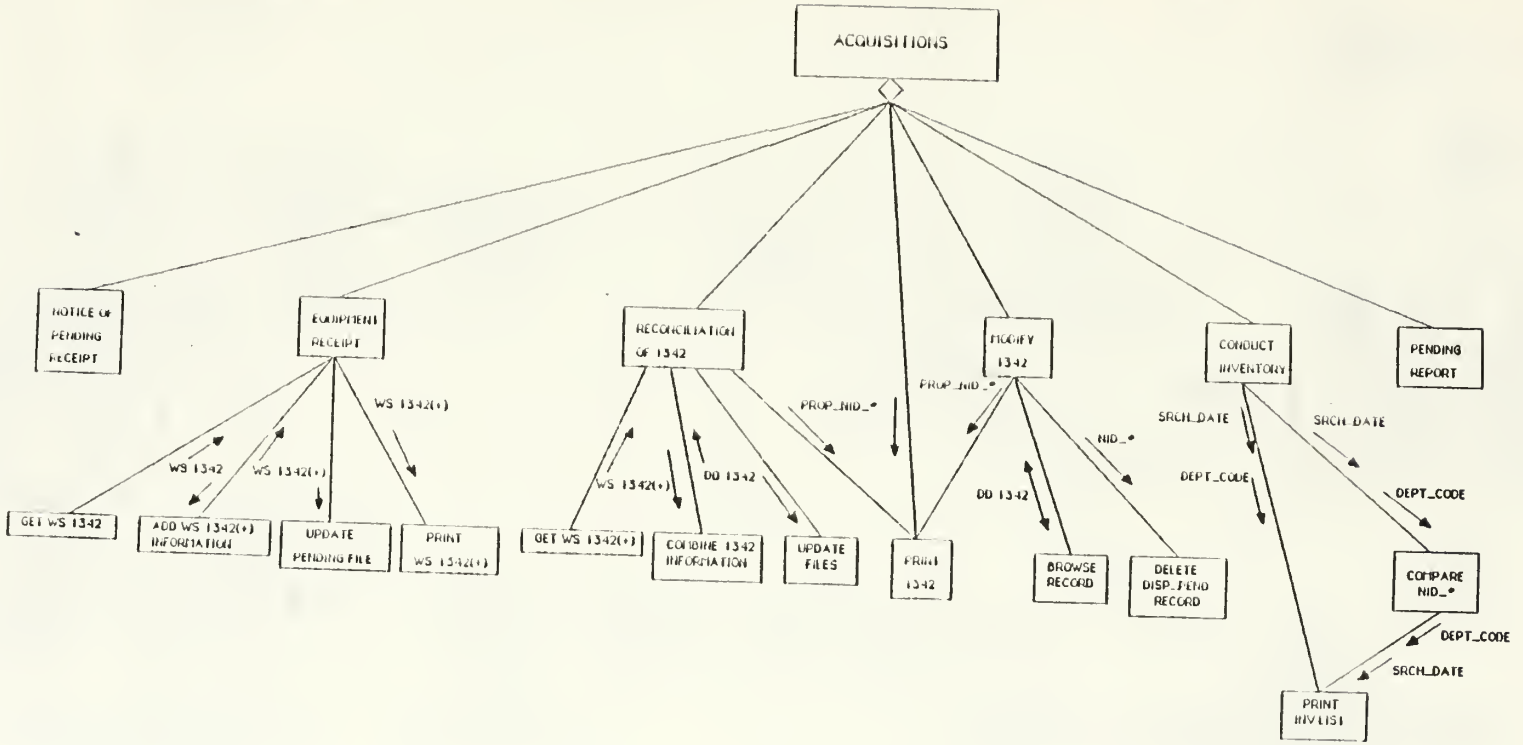
555 bytes/records * 5,000 records + [(Field Length (NID_# = 12) + Pointer Length of 4 bytes) * 5,000 records * 1.3] = 2.89 mb

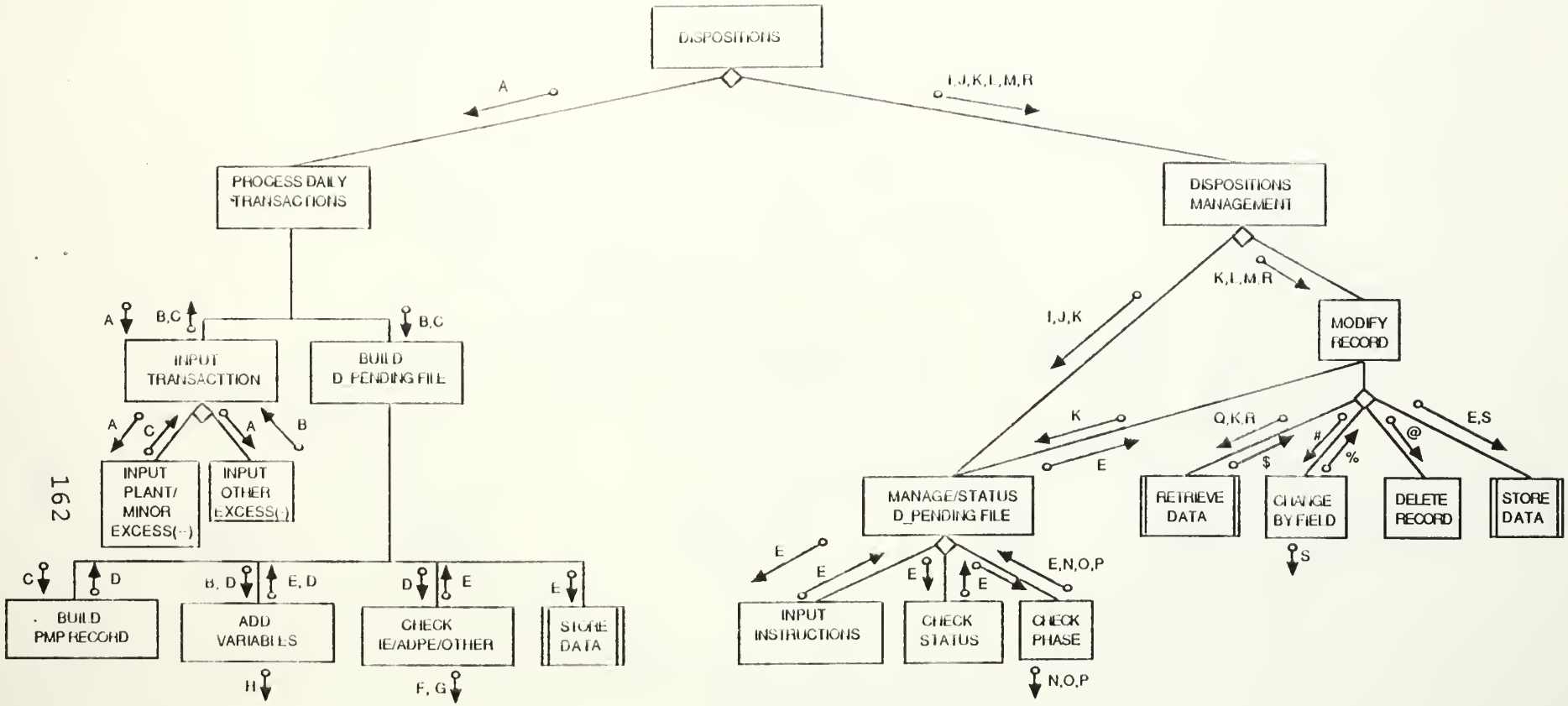
# APPENDIX C

## HIERARCHY CHARTS

The hierarchy charts presented in this appendix show the structure of the proposed PMPS. A brief overall view of the system is followed by a more detailed view of its two major functions; Acquisitions and Dispositions. The cross-reference charts are duplicated here for ease of reference.


PMPS
ACQUISITIONS
DISPOSITIONS
AD-HOC
REPORTS


ACQUISITIONS
NOTICE of PENDING RECEIPT
EQUIPMENT RECEIPT
RECONCILIATION OF 1342
MODIFY 1342
CONDUCT INVENTORY
PENDING REPORT
WS 1342
WS 1342(*)
WS 1342(*)
GET WS 1342
ADD WS 1342(*) INFORMATION
UPDATE PENDING FILE
PRINT WS 1342(*)
GET WS 1342(*)
COMBINE 1342 INFORMATION
UPDATE FILES
PROP_NID_*
PROP_NID_*
PRINT 1342
DD 1342
BROWSE RECORD
NID_*
DELETE DISP_SEND RECORD
SRCH_DATE
DEPT_CODE
SRCH_DATE
DEPT_CODE
COMPARE NID_*
DEPT_CODE
SRCH_DATE
PRINT INVLIST






A = EXCESS-M

B = EXCESS(-)

C = EXCESS(--)

D = EXCESS(--*)

E = D_PEND_INFO

F = DD 1342(I)_REP

G = SF_120_REP

H = HIT_LIST_REP

I = DARIC INST

J = DIPEC_INST

K = DATE_TERM

L = DD 1149

M = DD 1348-1(+)

N = DD 1348-1

O = TRANS_REP

P = HOLD REP

Q = NID #

R = PROP NID #

S = DD 1342

$ = E,S

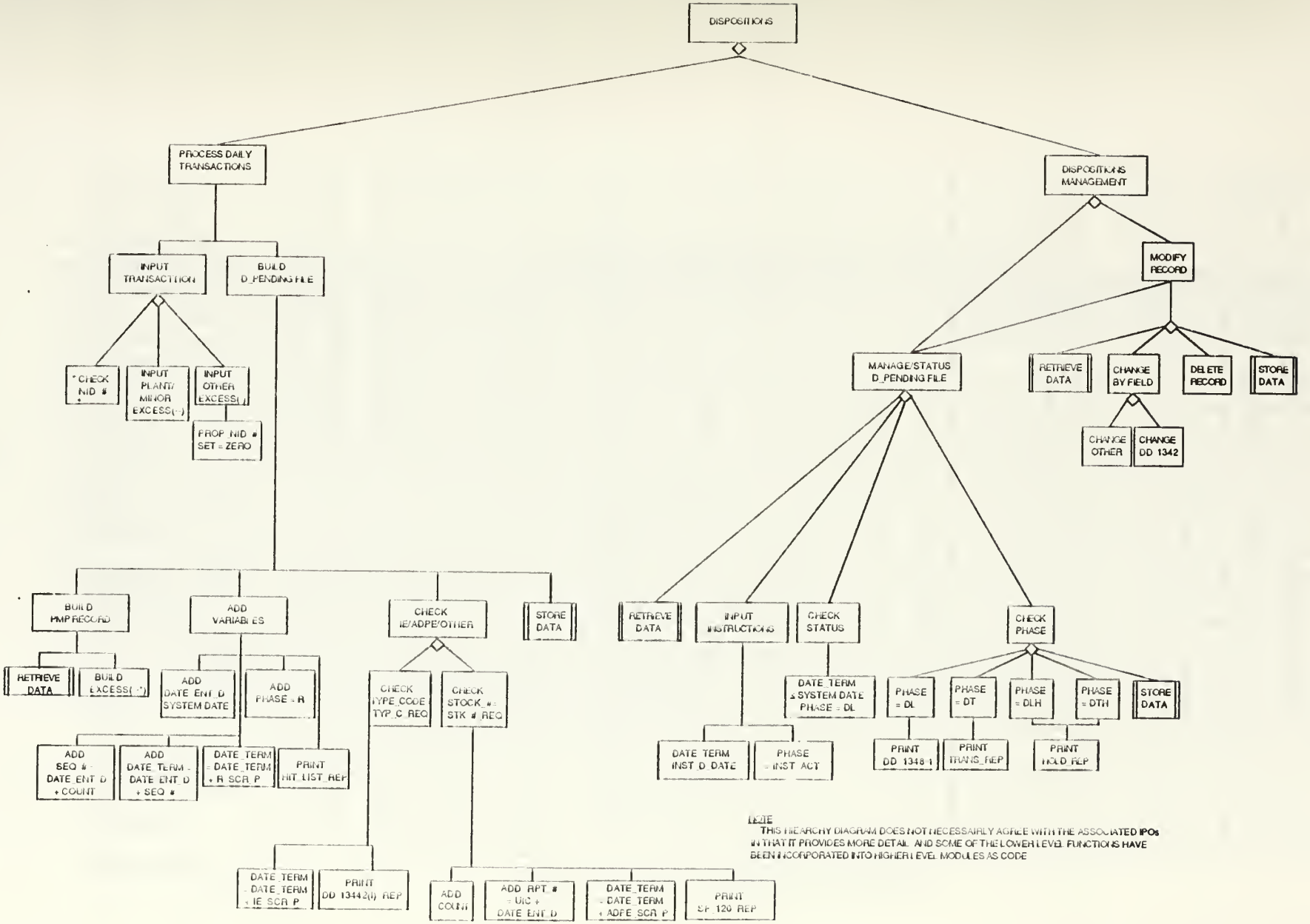
# = E,S

% = E,S

@ = Q,R,K

NOTE

NOT ALL OF THESE MODULES ARE REFLECTED IN THE ASSOCIATED IPOs AND ARE PROVIDED WITH THE INTENT OF IMPROVING CLARITY/UNDERSTANDABILITY.




NOTE
THIS HIERARCHY DIAGRAM DOES NOT NECESSARILY AGREE WITH THE ASSOCIATED IPOs IN THAT IT PROVIDES MORE DETAIL AND SOME OF THE LOWER LEVEL FUNCTIONS HAVE BEEN INCORPORATED INTO HIGHER LEVEL MODULES AS CODE

ACQUISITIONS DATA FLOW DIAGRAM BY MODULE NUMBER

| IPO MODULE NAME | 1.1.1 | 1.1.2 | 1.1.3 | 1.2.1 | 1.2.2 | 1.2.3 | 1.2.4 | 1.2.5 | 1.2.6 | 1.2.7 | 1.3.1 | 1.3.2 | 1.3.3 | 1.3.4 | 1.3.5 | 1.3.6 | 1.4.1 | 1.4.2 | 1.4.3 | 1.5.1 | 1.5.2 | 1.5.3 | 1.5.4 | 1.5.5 | 1.6.1 | 1.6.2 | 1.6.3 | 1.6.4 | 1.7.1 | 1.7.2 | 1.7.3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ACQUISITIONS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NOTICE OF PENDING RECEIPT | X | X | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| EQUIPMENT RECEIPT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| GET WS 1342 | | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ADD WS 1342(1) INFORMATION | | | | | X | X | X | | | | | | | | | | | | | | | | | | | | | | | |
| UPDATE PENDING FILE | | | | | | | | X | | | | | | | | | | | | | | | | | | | | | | |
| PRINT WS 1342(1) | | | | | | | | | X | X | | | | | | | | | | | | | | | | | | | | |
| RECONCILIATION OF 1342 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| GET WS 1342(1) | | | | | | | | | | | X | | | | | | | | | | | | | | | | | | | |
| COMBINE 1342 INFORMATION | | | | | | | | | | | | X | X | X | | | | | | | | | | | | | | | | |
| UPDATE FILES | | | | | | | | | | | | | | | X | X | | | | | | | | | | | | | | |
| PRINT 1342 | | | | | | | | | | | | | | | | | X | X | X | | | | | | | | | | | |
| MODIFY 1342 | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | |
| BROWSE RECORD | | | | | | | | | | | | | | | | | | | | | | | | | X | X | | | | |
| DELETE DISP_PEND RECORD | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | |
| CONDUCT INVENTORY | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | |
| COMPARE NID # | | | | | | | | | | | | | | | | | | | | | X | X | | | | | | | | |
| PRINT INV LIST | | | | | | | | | | | | | | | | | | | | | | | X | X | | | | | | |
| PENDING REPORT | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | X | X |

DISPOSITIONS DATA FLOW DIAGRAM BY MODULE NUMBER

| IPO MODULE NAME | 211 | 212 | 213 | 2131 | 2132 | 221 | 222 | 231 | 232 | 233 | 241 | 2411 | 2412 | 2413 | 2414 | 2415 | 2416 | 2417 | 242 | 2421 | 24211 | 24212 | 2422 | 24221 | 24222 | 24223 | 243 | 244 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DISPOSITIONS | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| PROCESS DAILY TRANSACTIONS | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| INPUT TRANSACTIONS | X | X | X | X | X | | | | | | | | | | | | | | | | | | | | | | | |
| INPUT PLANT/MINOR EXCESS(-) | X | X | | | | | | | | | | | | | | | | | | | | | | | | | | |
| INPUT OTHER EXCESS(-) | | | X | X | X | | | | | | | | | | | | | | | | | | | | | | | |
| BUILD D_PENDING FILE | | | | | | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| BUILD PMP RECORD | | | | | | X | X | X | X | | | | | | | | | | | | | | | | | | | |
| ADD VARIABLES | | | | | | | | | | | X | X | X | X | X | X | X | X | | | | | | | | | | |
| CHECK IE/ADPE/OTHER | | | | | | | | | | | | | | | | | | | X | X | X | X | X | X | X | X | | |
| STORE DATA | | | | | | | | | | X | | | | | | | | | | | | | | | | | X | |
| DISPOSITION MANAGEMENT | | | | | | | | X | X | X | | | | | | | | | | | | | | | | | | |
| MANAGE/STATUS D_PENDING FILE | | | | | | | | X | X | X | | | | | | | | | | | | | | | | | | |
| INPUT INSTRUCTIONS | | | | | | | | | | X | | | | | | | | | | | | | | | | | | |
| CHECK PHASE | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MODIFY RECORD | | | | | | | | X | X | X | | | | | | | | | | | | | | | | | | |

DISPOSITIONS DATA FLOW DIAGRAM BY MODULE NUMBER

| IPO MODULE NAME | 231 | 232 | 233 | 251 | 252 | 253 | 254 | 255 | 256 | 2561 | 25611 | 2562 | 25621 | 267 | 261 | 261.1 | 2612 | 2613 | 262 | 263 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DISPOSITIONS | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| PROCESS DAILY TRANSACTIONS | | | | | | | | | | | | | | | | | | | | |
| INPUT TRANSACTIONS | | | | | | | | | | | | | | | | | | | | |
| INPUT PLANT/MINOR EXCESS(-) | | | | | | | | | | | | | | | | | | | | |
| INPUT OTHER EXCESS(-) | | | | | | | | | | | | | | | | | | | | |
| BUILD D_PENDING FILE | | | | | | | | | | | | | | | | | | | | |
| BUILD PMP RECORD | | | | | | | | | | | | | | | | | | | | |
| ADD VARIABLES | | | | | | | | | | | | | | | | | | | | |
| CHECK IE/ADPE/OTHER | | | | | | | | | | | | | | | | | | | | |
| STORE DATA | | | | | | | | | | | | | | | | | | | | |
| DISPOSITION MANAGEMENT | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| MANAGE/STATUS D_PENDING FILE | | | X | X | X | X | X | X | X | X | X | X | X | X | | | | | | |
| INPUT INSTRUCTIONS | | | X | X | X | X | | | | | | | | | | | | | | |
| CHECK PHASE | | | | | | | | | X | X | X | X | X | | | | | | | |
| MODIFY RECORD | X | X | X | | | | | | | | | | | X | X | X | X | X | X | X |

| IPO MODULE NAME | DISPOSITIONS DATA FLOW DIAGRAM BY MODULE NUMBER | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 271 | 272 | 2721 | 27211 | 27212 | 2722 | 27221 | 27222 | 27223 | 27224 | 273 |
| DISPOSITIONS | | X | X | X | X | X | X | X | X | X | X |
| PROCESS DAILY TRANSACTIONS | | X | X | X | X | X | X | | | | X |
| INPUT TRANSACTIONS | | | | | | | | | | | |
| INPUT PLANT/MINOR EXCESS( ) | | | | | | | | | | | |
| INPUT OTHER EXCESS( ) | | | | | | | | | | | |
| BUILD PENDING FILE | | X | X | X | X | X | X | | | | X |
| BUILD MP RECORD | | | | | | | | | | | |
| ADD VARIABLES | | | | | | | | | | | |
| CHECK IE/ADPE/OTHER | | X | X | X | X | | | | | | X |
| STORE DATA | | | | | | | | | | | |
| DISPOSITION MANAGEMENT | | X | X | X | X | X | X | X | X | X | X |
| MANAGE/STATUS D PENDING FILE | | X | X | X | X | X | X | X | X | X | X |
| INPUT INSTRUCTIONS | | | | | | | | | | | |
| CHECK PHASE | | X | | | | X | | X | X | X | X |
| MODIFY RECORD | | X | | | | | | | | | X |

# APPENDIX D

## INPUT/PROCESS/OUTPUT CHARTS

The IPO charts in this appendix are used to describe the inputs to, the outputs from, and the process performed by each module. The data dictionary (Appendix B) defines the input and output structure of nonlocal data elements listed in the IPO charts. The algorithm description in the process section defines the process of the proposed module in a structured English format. The IPO chart order is the order depicted by the hierarchy charts in Appendix C listed on the next page.

| IPO Chart | page |
|---|---|
| PMPS | 170 |
| ACQUISITIONS | 171 |
| NOTICE OF PENDING RECEIPT | 172 |
| EQUIPMENT RECEIPT | 173 |
| GET WS 1342 | 174 |
| ADD WS 1342(+)INFORMATION | 175 |
| UPDATE PENDING FILE | 176 |
| PRINT WS 1342(+) | 177 |
| RECONCILIATION OF 1342 | 178 |
| GET WS 1342(+) | 179 |
| COMBINE 1342 INFORMATION | 180 |
| UPDATE FILES | 181 |
| PRINT 1342 | 182 |
| MODIFY 1342 | 183 |
| BROWSE RECORD | 184 |
| DELETE DISP_PEND RECORD | 185 |
| CONDUCT INVENTORY | 186 |
| COMPARE NID_# | 187 |
| PRINT INV LIST | 188 |
| PENDING REPORT | 189 |
| DISPOSITIONS | 190 |
| PROCESS DAILY TRANSACTIONS | 191 |
| INPUT TRANSACTION | 192 |
| INPUT PLANT/MINOR EXCESS(--) | 193 |
| INPUT OTHER EXCESS(-) | 194 |
| BUILD D_PENDING FILE | 195 |
| BUILD PMP RECORD | 196 |
| ADD VARIABLES | 197 |
| CHECK IE/ADPE/OTHER | 198 |
| STORE DATA | 199 |
| DISPOSITIONS MANAGEMENT | 200 |
| MANAGE/STATUS D_PENDING FILE | 201 |
| INPUT INSTRUCTIONS | 202 |
| CHECK PHASE | 203 |
| MODIFY RECORD | 204 |
| AD-HOC REPORTS | 205 |

# IPO CHART

SYSTEM: PMPS
MODULE: PMPS

PREPARED BY: SMITH
DATE: FEBRUARY 1987

CALLED OR INVOKED BY:

NONE

CALLS OR INVOKES:

ACQUISITIONS
DISPOSITIONS
AD-HOC REPORTS

INPUTS:

NONE

OUTPUTS:

NONE

PROCESS:

```
DO WHILE .T.
        DISPLAY SCREEN MENU
        SELECT CHOICE
                1. ACQUISITIONS
                2. DISPOSITIONS
                3. AD-HOC REPORTS
                4. RETURN TO OPERATING SYSTEM
                5. QUIT
ENDDO
```

LOCAL DATA ELEMENTS:

NONE

NOTES:

NONE

# IPO CHART

SYSTEM: PMPS
MODULE: ACQUISITIONS

PREPARED BY: SMITH
DATE: FEBRUARY 1987

CALLED OR INVOKED BY:

PMPS

CALLS OR INVOKES:

NOTICE OF PENDING RECEIPT
EQUIPMENT RECEIPT
RECONCILIATION OF 1342
PRINT 1342
CONDUCT INVENTORY
MODIFY 1342
PENDING RECEIPT

INPUTS:

CHOICE
PROP_NID_*

OUTPUTS:

PROP_NID_*

PROCESS:

```
DISPLAY ACQUISITION MENU
DO WHILE .T.
        GET USER OPTIONS
        DO CASE TO EXECUTE CORRECT MODULE
        ON CASE = PRINT 1342 ENTER PROP_NID_*
        ON CASE = EXIT RETURN
ENDDO
```

LOCAL DATA ELEMENTS:

CHOOSE
mPROP_NID_*

NOTES:

NONE

# IPO CHART

SYSTEM: PMPS
MODULE: NOTICE OF PENDING RECEIPT

PREPARED BY: SMITH
DATE: FEBRUARY 1987

CALLED OR INVOKED BY:

ACQUISITIONS

CALLS OR INVOKES:

NONE

INPUTS:

| | |
|---|---|
| PO_# | NOUN_NAME |
| REQN_# | CONSIGNOR |
| MFG_NAME | DEPT_CODE |
| MFG_MOD_# | DATE_ENT |
| | PROP_CODE |

OUTPUTS:

PENDING FORMAT

PROCESS.

```
DO WHILE .T.
        DISPLAY PENDING INPUT SCREEN
        DO WHILE .T.
                RECEIVE USER INPUT FROM KEYBOARD
                IF VALID THEN EXIT
        ENDDO
        SET PEND_STAT TO 'P'
        APPEND PENDING FORMAT TO PENDING FILE
        IF MORE ENTRIES ARE DESIRED THEN EXIT
        RETURN
ENDDO
```

LOCAL DATA ELEMENTS.

mVERIFY
mMORE

NOTES.

SCREEN DISPLAY MUST ALLOW FOR USER TO VERIFY DATA IS CORRECT BEFORE FILE IS APPENDED

# IPO CHART

SYSTEM: PMPS
MODULE: EQUIPMENT RECEIPT

PREPARED BY: SMITH
DATE: FEBRUARY 1987

CALLED OR INVOKED BY:

ACQUISITIONS

CALLS OR INVOKES:

GET WS 1342
ADD 1342(+) INFORMATION
UPDATE PENDING FILE
PRINT WS 1342(+)

INPUTS:

WS 1342
WS 1342(+)

OUTPUTS:

WS 1342
WS 1342(+)

PROCESS:

GET WS 1342
ADD 1342(+) INFORMATION
WRITE UPDATED RECORD BACK TO PENDING FILE
PRINT WS 1342(+)
RETURN

LOCAL DATA ELEMENTS:

NONE

NOTES:

NONE

# IPO CHART

SYSTEM: PMPS
MODULE: GET WS 1342

PREPARED BY: SMITH
DATE: FEBRUARY 1987

CALLED OR INVOKED BY:

EQUIPMENT RECEIPT

CALLS OR INVOKES:

NONE

INPUTS:

PO_#

OUTPUTS:

WS 1342

PROCESS:

```
DO WHILE .T.
        ENTER PO_#
        LOCATE RECORD WITH THAT PO_#
        IF NOT EOF THEN
                RETURN
        DISPLAY ERROR MESSAGE
        ASK USER IF THEY WANT TO TRY AGAIN (Y/N)
        IF mTRY = 'N' THEN RETURN TO ACQUISITIONS MENU
ENDDO
```

LOCAL DATA ELEMENTS:

mTRY
mPO_#

NOTES:

NONE

# IPO CHART

SYSTEM: PMPS
MODULE: ADD 1342(+) INFORMATION

PREPARED BY: SMITH
DATE: FEBRUARY 1987

CALLED OR INVOKED BY:
EQUIPMENT RECEIPT

CALLS OR INVOKES:
NONE

INPUTS:
DATE_RECV
NID_#
MFG_SER_#
WS 1342

OUTPUTS:
WS 1342(+)

PROCESS:
DISPLAY SCREEN
FILL IN WS 1342 INFORMATION AUTOMATICALLY
PROMPT USER TO FILL IN THE MISSING WS 1342 INFORMATION
REPLACE PEND_STAT WITH 'R'
PROMPT USER TO FILL IN THE WS 1342(+) INFORMATION
REPLACE DATE_ENT WITH DATE_RECV
VERIFY ALL INFORMATION CORRECT
YES; RETURN WS 1342(+) TO EQUIPMENT RECEIPT MODULE
NO; CORRECT INFORMATION
REPEAT VERIFY

LOCAL DATA ELEMENTS:
eVERIFY
mMFG_SER_#
mNID_#
mDATE_RECV

NOTES:
THE m BEFORE THE LOCAL VARIABLE IS USED TO DENOTE A MEMORY VARIABLE THAT IS THE LOCAL VARIABLE FOR THE INPUT DATA ELEMENT

# IPO CHART

SYSTEM: PMPS
MODULE: PRINT WS 1342(+)

PREPARED BY: SMITH
DATE: FEBRUARY 1987

CALLED OR INVOKED BY:

EQUIPMENT RECEIPT

CALLS OR INVOKES:

NONE

INPUTS:

WS 1342(+)

OUTPUTS:

NONE

PROCESS:

FORMAT WS 1342(+) FOR PRINTING
SET PRINT ON
PRINT WS 1342(+)
SET PRINT OFF
RETURN TO ACQUISITIONS MENU

LOCAL DATA ELEMENTS:

NONE

NOTES:

NONE

# IPO CHART

SYSTEM: PMPS
MODULE: UPDATE PENDING FILE

PREPARED BY: SMITH
DATE: FEBRUARY 1987

CALLED OR INVOKED BY:
EQUIPMENT RECEIPT

CALLS OR INVOKES:
NONE

INPUTS:
WS 1342(+)

OUTPUTS:
NONE

PROCESS:
REPLACE WS1342 WITH WS 1342(+)
DISPLAY SUCCESSFUL UPDATE MESSAGE
PRESS ANY KEY TO CONTINUE
RETURN TO EQUIPMENT RECEIPT MODULE

LOCAL DATA ELEMENTS:
NONE

NOTES:
NONE

# IPO CHART

SYSTEM: PMPS
MODULE: RECONCILIATION OF 1342

PREPARED BY: SMITH
DATE: FEBRUARY 1987

CALLED OR INVOKED BY:

ACQUISITIONS

CALLS OR INVOKES:

GET WS 1342(*)
COMBINE 1342 INFORMATION
UPDATE FILES
PRINT 1342

INPUTS:

WS 1342(*)
DD 1342

OUTPUTS:

WS 1342(*)
DD 1342
PROP_NID_#

PROCESS:

GET WS 1342(*)
COMBINE 1342 INFORMATION
UPDATE FILES
IF HARD COPY DESIRED THEN SEND PROP_NID_# TO PRINT 1342
IF ANOTHER UPDATE IS DESIRED THEN REPEAT MODULE
REURN TO ACQUISITIONS MENU

LOCAL DATA ELEMENTS:

CHOICE

NOTES:

NONE

# IPO CHART

SYSTEM: PMPS
MODULE: GET WS 1342(+)

PREPARED BY: SMITH
DATE: FEBRUARY 1987

CALLED OR INVOKED BY:

RECONCILIATION OF 1342

CALLS OR INVOKES:

NONE

INPUTS:

PROP_NID_#

OUTPUTS:

WS 1342(+)

PROCESS:

```
IF PROP_CODE = MINOR THEN
        USE MINOR FILE
 ELSE
        USE PROPERTY FILE
LOCATE WS 1342(+) BY NID_#
RETURN
```

LOCAL DATA ELEMENTS:

mNID_#
mPROP_CODE

NOTES:

NONE

# IPO CHART

SYSTEM: PMPS
MODULE: COMBINE 1342 INFORMATION

PREPARED BY: SMITH
DATE: FEBRUARY 1987

CALLED OR INVOKED BY:

RECONCILIATION OF 1342

CALLS OR INVOKES:

NONE

INPUTS:

WS 1342(+)

COMPLETED WS 1342

OUTPUTS:

DD 1342

PROCESS:

```
DISPLAY SCREEN WITH WS 1342(+) DATA
ENTER COMPLETED WS 1342 DATA
IF PROP_CODE = PLANT THEN
        ENTER PLANT DATA
ELSE
        ENTER MINOR DATA
USER VERIFIES DATA, PRESS ANY KEY TO CONTINUE
RETURN
```

LOCAL DATA ELEMENTS:

mPROP_CODE

NOTES:

PROP_CODE IS INCLUDED IN THE WS 1342(+)

# IPO CHART

SYSTEM: PMPS
MODULE: UPDATE FILES

PREPARED BY: SMITH
DATE: FEBRUARY 1987

CALLED OR INVOKED BY:

RECONCILIATION OF 1342

CALLS OR INVOKES:

NONE

INPUTS:

DD 1342

OUTPUTS:

NONE

PROCESS:

```
IF PROP_CODE = MINOR THEN
        USE MINOR FILE
ELSE
        USE PLANT FILE

APPEND DD1342 TO FILE
CLOSE FILE
USE PENDING FILE
LOCATE WS 1342(+) BY NID_#
DELETE RECORD
RETURN
```

LOCAL DATA ELEMENTS:

mPROP_CODE

NOTES:

PROP_CODE AND THE NID_#
ARE IN THE DD 1342

# IPO CHART

SYSTEM: PMPS
MODULE: PRINT 1342

PREPARED BY: SMITH
DATE: FEBRUARY 1987

CALLED OR INVOKED BY:

ACQUISITIONS
MODIFY 1342
RECONCILIATION OF 1342

CALLS OR INVOKES:

NONE

INPUTS:

PROP_NID#

COPY_#

OUTPUTS:

NONE

PROCESS.

```
IF PROP_CODE = MINOR THEN
        USE MINOR FILE
ELSE USE PLANT FILE
SEEK DD 1342 BY NID_#
ENTER COPY_#
SET PRINT ON
mPRINT = 0
DO WHILE mCOPY_# > mPRINT
        PRINT DD1342
        mPRINT = mPRINT + 1
ENDDO
SET PRINT OFF
RETURN
```

LOCAL DATA ELEMENTS:

mPRINT
mPROP_CODE
mNID_#
mCOPY_#

NOTES:

NONE

# IPO CHART

SYSTEM: PMPS
MODULE: MODIFY 1342

PREPARED BY: SMITH
DATE: FEBRUARY 1987

CALLED OR INVOKED BY:
ACQUISITIONS

CALLS OR INVOKES:
PRINT 1342
BROWSE 1342
DELETE DISP_PEND RECORD

INPUTS:
PROP_NID_#

OUTPUTS:
NID_#

PROCESS:

```
ENTER PROP_NID_#
IF PROP_CODE = MINOR THEN
        USE MINOR FILE
ELSE
        USE PLANT FILE
PRINT 1342
BROWSE 1342
PRINT 1342
DELETE DISP_PEND RECORD
RETURN
```

LOCAL DATA ELEMENTS:
mPROP_CODE
mNID_#

NOTES:
NONE

# IPO CHART

SYSTEM: PMPS
MODULE: BROWSE 1342

PREPARED BY: SMITH
DATE: FEBRUARY 1987

CALLED OR INVOKED BY:

MODIFY 1342

CALLS OR INVOKES:

NONE

INPUTS:

AS REQUIRED TO INCLUDE
ANY DD 1342 DATA

OUTPUTS:

NONE

PROCESS:

```
DISPLAY SCREEN WITH DD 1342 INFORMATION
DO WHILE .T.
        BROWSE  RECORD
        FINISHED ? (Y/N)
        IF mFINISH = Y THEN UPDATE FILE AND RETURN
ENDDO
```

LOCAL DATA ELEMENTS:

mFINISH

NOTES:

NONE

# IPO CHART

SYSTEM: PMPS
MODULE: DELETE DISP_PEND RECORD

PREPARED BY: SMITH
DATE: FEBRUARY 1987

CALLED OR INVOKED BY:

MODIFY 1342

CALLS OR INVOKES:

NONE

INPUTS:

NID_#

OUTPUTS:

NONE

PROCESS:

```
USE D_PENDING FILE
LOCATE RECORD WITH NID_#
IF .NOT. EOF THEN
        DELETE RECORD
        WRITE "RECORD DELETED"
ELSE
        WRITE " RECORD NOT IN DISPOSITION PENDING FILE "
RETURN
```

LOCAL DATA ELEMENTS:

NONE

NOTES:

NONE

# IPO CHART

SYSTEM: PMPS
MODULE: CONDUCT INVENTORY

PREPARED BY: SMITH
DATE: FEBRUARY 1987

CALLED OR INVOKED BY:
ACQUISITIONS

CALLS OR INVOKES:
PRINT INV LIST
COMPARE NID_↵

INPUTS:
PROP_CODE
DEPT_CODE
SRCH_DATE
ACTION

OUTPUTS:
DEPT_CODE
SRCH_DATE

PROCESS:

```
ENTER PROP_CODE
IF PROP_CODE = MINOR THEN
      USE MINOR FILE
ELSE USE PLANT FILE
ENTER DEPT_CODE
ENTER SRCH_DATE
DISPLAY CHOICE MENU
ENTER ACTION
IF ACTION = 1 THEN
       PRINT INV LIST
ELSE
      COMPARE NID_↵
RETURN
```

LOCAL DATA ELEMENTS:
mPROP_CODE
mDEPT_CODE
mSRCH_DATE

NOTES:
NONE

# IPO CHART

SYSTEM: PMPS
MODULE: COMPARE NID_#

PREPARED BY: SMITH
DATE: FEBRUARY 1987

CALLED OR INVOKED BY:
CONDUCT INVENTORY

CALLS OR INVOKES:
PRINT INV LIST

INPUTS:
NID_#
INV_DATE
DEPT_CODE
SRCH_DATE

OUTPUTS:
SRCH_DATE
DEPT_CODE

PROCESS:

```
DISPLAY SCREEN
ENTER INV_DATE
DO UNTIL EOF
        ENTER NID_#
        LOCATE NID_#
        REPLACE INV_DATE
        CONTINUE
ENDDO
PRINT INV LIST
RETURN
```

LOCAL DATA ELEMENTS:
mNID_#
mINV_DATE

NOTES:
NONE

# IPO CHART

SYSTEM: PMPS
MODULE: PRINT INV LIST

PREPARED BY: SMITH
DATE: FEBRUARY 1987

CALLED OR INVOKED BY:

CONDUCT INVENTORY
COMPARE NID_#

CALLS OR INVOKES:

NONE

INPUTS:

SRCH_DATE
DEPT_CODE

OUTPUTS:

NONE

PROCESS:

```
SET PRINT ON
DO UNTIL EOF
        LOCATE INV_DATE = SRCH_DATE AND DEPT_CODE
        PRINT DD 1342(-)
        CONTINUE
ENDDO
SET PRINT OFF
RETURN
```

LOCAL DATA ELEMENTS:

NONE

NOTES:

NONE

# IPO CHART

SYSTEM: PMPS
MODULE: PENDING REPORT

PREPARED BY: SMITH
DATE: FEBRUARY 1987

CALLED OR INVOKED BY:

ACQUISITIONS

CALLS OR INVOKES:

NONE

INPUTS:

SEARCH
COPY_#

OUTPUTS:

NONE

PROCESS:

```
USE PENDING FILE
ENTER SEARCH DATA
SET PRINT ON
ENTER COPY_#
PRINT HEADER
DO WHILE COPY_# > 0
        DO WHILE .NOT. EOF
                LOCATE RECORD WITH PEND_STAT .AND. SRCH > DATE_ENT
                PRINT OUT_FMT PENDING
                CONTINUE
        ENDDO
        COPY_# = COPY_# - 1
ENDDO
SET PRINT OFF
RETURN
```

LOCAL DATA ELEMENTS.

NONE

NOTES.

AD-HOC REPORTS MAY BE USED TO PRODUCE A DIFFERENT PENDING REPORT. DATE_RECV IS THE FIELD NAME FOR DATE_ENT OR DATE_RECV DEPENDING ON THE ITEM STATUS

# IPO CHART

SYSTEM: PMPS
MODULE: DISPOSITIONS

PREPARED BY: ROSS
DATE: FEBRUARY 1987

CALLED OR INVOKED BY:
PMPS

CALLS OR INVOKES:
PROCESSING DAILY TRANS-
ACTIONS
DISPOSITIONS MANAGEMENT

INPUTS:
DARIC_INST EXCESS-M
DATE_TERM
DD 1149
DD 1348-1(+)
DIPEC_INST

OUTPUTS:
DARIC_INST EXCESS-M
DATE_TERM
DD 1149
DD 1348-1(+)
DIPEC_INST

PROCESS:
DISPLAY MENU
DO CASE
CASE A = DO PROCESS DAILY TRANSACTIONS
CASE B = DO DISPOSITION MANAGEMENT
CASE C = RETURN TO PMPS
END CASE

LOCAL DATA ELEMENTS:
NA

NOTES:
NA

# IPO CHART

SYSTEM: PMPS
MODULE: PROCESS DAILY TRANSACTIONS

PREPARED BY: ROSS
DATE: FEBRUARY 1987

CALLED OR INVOKED BY:
DISPOSITIONS

CALLS OR INVOKES:
INPUT TRANSACTIONS
BUILD D_PENDING FILE

INPUTS:
EXCESS-M

OUTPUTS:
EXCESS-M
EXCESS(-)
EXCESS(--)

PROCESS:
DO INPUT TRANSACTION
DO BUILD D_PENDING FILE
RETURN

LOCAL DATA ELEMENTS:
NA

NOTES:
NA

# IPO CHART

SYSTEM: PMPS
MODULE: INPUT TRANSACTION

PREPARED BY: ROSS
DATE: FEBRUARY 1987

CALLED OR INVOKED BY:
PROCESS DAILY TRANSACTIONS

CALLS OR INVOKES:
INPUT PLAN/MINOR EXCESS(—)
INPUT OTHER EXCESS(-)

INPUTS:
EXCESS-M

OUTPUTS:
EXCESS(-)
EXCESS(—)

PROCESS:

```
DO WHILE .T.
   " DO YOU HAVE A PROP_MID_*? (Y/N)"
   IF N THEN
      DO INPUT OTHER EXCESS(-)
   ELSE
      DO INPUT PLANT/MINOR EXCESS(—)
   " DO YOU WANT TO PROCESS ANOTHER TRANSACTION? (Y/N)"
   IF N THEN EXIT
END DO
CREATE TEMP_FILE
RETURN
```

LOCAL DATA ELEMENTS:
NA

NOTES:
NA

# IPO CHART

SYSTEM: PMPS
MODULE: INPUT PLANT/MINOR EXCESS(—)

PREPARED BY: ROSS
DATE: FEBRUARY 1987

CALLED OR INVOKED BY:
INPUT TRANSACTIONS

CALLS OR INVOKES:
NA

INPUTS:
EXCESS-M

OUTPUTS:
EXCESS(—)
TEMP FILE

PROCESS:
```
DO WHILE .T.
    DISPLAY INPUT FORMAT
    INPUT EXCESS(—) TO TEMP FILE
    "IS THIS DATA CORRECT? (Y/N)"
    IF Y THEN EXIT
END DO
RETURN
```

LOCAL DATA ELEMENTS:
NA

NOTES:
NA

# IPO CHART

SYSTEM: PMPS
MODULE: INPUT OTHER EXCESS(-)

PREPARED BY: ROSS
DATE: FEBRUARY 1987

CALLED OR INVOKED BY:
INPUT TRANSACTIONS

CALLS OR INVOKES:
NA

INPUTS:
EXCESS-M

OUTPUTS:
EXCESS(-) W/PROP_NID_*
TEMP FILE

PROCESS:
```
DO WHILE .T.
    DISPLAY INPUT FORMAT
    SET PROP_NID_* = ZERO
    INPUT EXCESS(-) TO TEMP FILE
    "IS THIS DATA CORRECT? (Y/N)"
END DO
RETURN
```

LOCAL DATA ELEMENTS:
ZERO

NOTES:
NA

# IPO CHART

SYSTEM: PMPS
MODULE: BUILD D_PENDING FILE

PREPARED BY: ROSS
DATE: FEBRUARY 1987

CALLED OR INVOKED BY:
PROCESS DAILY TRANSACTIONS

CALLS OR INVOKES:
ADD VARIABLES
BUILD PMP RECORD
CHECK IE/ADPE/OTHER
STORE DATA

INPUTS:
EXCESS(-)
EXCESS(—) TEMP FILE

OUTPUTS:
DD 1342(1)_REP
D_PEND_INFO
HIT_LIST_REP
SF_120_REP

PROCESS:

```
DO WHILE .T.
    IF PROP_NID_* > 0 THEN
        DO BUILD PMP RECORD
            ADD VARIABLES
            CHECK IE/ADPE/OTHER
            STORE DATA
    ELSE
        DO ADD VARIABLES
            INCREMENT DATE_TERM BY R_SCR_P
            STORE DATA
    "DO YOU WANT TO BUILD ANOTHER RECORD? (Y/N)"
     IF N THEN EXIT
END DO
PRINT HIT_LIST_REP
RETURN
```

LOCAL DATA ELEMENTS:
NA

NOTES:
NA

# IPO CHART

SYSTEM: PMPS
MODULE: BUILD PMP RECORD

PREPARED BY: ROSS
DATE: FEBRUARY 1987

CALLED OR INVOKED BY:
BUILD D_PENDING FILE

CALLS OR INVOKES:
NA

INPUTS:
EXCESS(—)
DD 1342

OUTPUTS:
EXCESS(—*)
TEMP FILE

PROCESS:
IF PROP_CODE = PLANT
USE PLANT FILE
ELSE USE MINOR FILE
FIND DD 1342 BY NID_*
COPY DD 1342 TO TEMP FILE
CLOSE PLANT OR MINOR FILE
REPLACE QTY W/ QTY_E
RENAME QTY W/ QTY_E
APPEND COND_C_E, POC_N, POC_P_*
RETURN

LOCAL DATA ELEMENTS:
NA

NOTES:
NA

# IPO CHART

SYSTEM: PMPS
MODULE: ADD VARIABLES

PREPARED BY: ROSS
DATE: FEBRUARY 1987

CALLED OR INVOKED BY:
BUILD D_PENDING FILE

CALLS OR INVOKES:
NA

INPUTS:
COUNT
DATE_ENT_D
DATE_TERM
EXCESS(-)
EXCESS(—*)
PHASE
R_SCR_P
SEQ_*
SYSTEM DATE
TEMP FILE

OUTPUTS:
EXCESS(—*)
HIT_LIST_REP
D_PEND_INFO

PROCESS:
```
DO WHILE .T.
    CONVERT DATE( ) TO SYSTEM DATE (JULIAN FORMAT)
    DISPLAY INPUT FORMAT
    APPEND DATE_ENT_D = SYSTEM DATE TO TEMP FILE
    INPUT COUNT (PROVIDED BY USER, FROM 01 - 99)
    APPEND SEQ_* = DATE_ENT_D + COUNT TO TEMP FILE
    APPEND DATE_TERM = DATE_ENT_D + SEQ_* TO TEMP FILE
    APPEND PHASE = R TO TEMP FILE
    " IS THIS DATA CORRECT? (Y/N)"
    IF Y THEN EXIT
END DO
RETURN
```

LOCAL DATA ELEMENTS:
NA

NOTES:
NA

# IPO CHART

SYSTEM: PMPS
MODULE: CHECK IE/ADPE/OTHER

PREPARED BY: ROSS
DATE: FEBRUARY 1987

CALLED OR INVOKED BY:
BUILD D_PENDING FILE

CALLS OR INVOKES:
NA

INPUTS:
ADPE_SCR_P
EXCESS(—*)] TEMP FILE
IE_SCR_P
STK_*_REQ
TYP_C_REQ UIC

OUTPUTS:
DD 1342(1)_REP
D_PEND_INFO
SF_120_REP

PROCESS:
IF TYPE_CODE = TYP_C_REQ THEN
DATE_TERM = DATE_TERM + IE_SCR_P
PRINT DD 1342(1)_REP
IF STOCK_* = STK_*_REQ THEN
APPEND RPT_* = UIC + DATE_ENT_D TO TEMP FILE
DATE_TERM = DATE_TERM + ADPE_SCR_P
PRINT SF_120_REP
RETURN

LOCAL DATA ELEMENTS:
NA

NOTES:
NA

# IPO CHART

SYSTEM: PMPS
MODULE: STORE DATA

PREPARED BY: ROSS
DATE: FEBRUARY 1987

CALLED OR INVOKED BY:
BUILD D_PENDING FILE

CALLS OR INVOKES:
NA

INPUTS:
D_PEND_INFO

OUTPUTS:
D_PEND_INFO

PROCESS:
RECEIVE D_PEND_INFO
APPEND D_PEND_INFO TO D_PENDING FILE
DELETE TEMP FILE
RETURN

LOCAL DATA ELEMENTS:
NA

NOTES:
NA

# IPO CHART

SYSTEM: PMPS
MODULE: DISPOSITIONS MANAGEMENT

PREPARED BY: ROSS
DATE: FEBRUARY 1987

CALLED OR INVOKED BY:
DISPOSITIONS

CALLS OR INVOKES:
MANAGE/STATUS
D_PENDING FILE
MODIFY RECORD

INPUTS:
DARIC_INST
DATE_TERM
DD 1149
DD 1348-1(+)
DIPEC_INST

OUTPUTS:
DARIC_INST
DATE_TERM
DD 1149
DD 1348-1(+)
DIPEC_INST

PROCESS:
DISPLAY MENU
DO CASE
CASE A = DO MANAGE/STATUS D_PENDING FILE (ENTERED WHEN PROCESSING DARIC,DIPEC_INST OR DATE_TERM REQUEST)
CASE B = DO MODIFY RECORD (USED FOR PROCESSING DD 1149 OR DD 1348-1(+))
CASE C = RETURN TO PMPS
END CASE

LOCAL DATA ELEMENTS:
NA

NOTES:
NA

# IPO CHART

SYSTEM: PMPS
MODULE: MANAGE/STATUS D_PENDING FILE

PREPARED BY: ROSS
DATE: FEBRUARY 1987

CALLED OR INVOKED BY:
DISPOSITIONS MANAGEMENT
MODIFY RECORD

CALLS OR INVOKES:
INPUT TRANSACTIONS
CHECK PHASE

INPUTS:
DARIC_INST
DATE_TERM
DIPEC_INST
D_PEND_INFO
NID_*
RPT_*
SYSTEM DATE

OUTPUTS:
DARIC_INST
DATE_TERM
DIPEC_INST
D_PEND_INFO

PROCESS:

```
DISPLAY MENU
DO CASE
   CASE A = DARIC _INST
      DO WHILE .T.
         ENTER RPT_*
         " IS THIS RPT_* CORRECT? (Y/N)"
         IF Y THEN EXIT
      END DO
      RETRIEVE D_PEND_INFO FROM D_PENDING FILE
      DO INPUT INSTRUCTION
      IF DATE_TERM < = SYSTEM DATE SET PHASE = DL
      DO CHECK PHASE
   CASE B = DIPEC _INST
      ENTER NID_*
      RETRIEVE D_PEND_INFO FROM D_PENDING FILE
      DO INPUT INSTRUCTIONS
      IF DATE_TERM < = SYSTEM DATE SET PHASE = DL
      DO CHECK PHASE

   CASE C = DATE_TERM
      ENTER DATE_TERM
      RETRIEVE D_PEND_INFO FROM D_PENDING FILE
      IF DATE_TERM < = SYSTEM DATE SET PHASE = DL
      DO CHECK PHASE
END CASE
UPDATE D_PEND_INFO TO D_PENDING FILE
RETURN
```

LOCAL DATA ELEMENTS:
NA

NOTES:
NA

# IPO CHART

SYSTEM: PMPS
MODULE: INPUT INSTRUCTIONS

PREPARED BY: ROSS
DATE: FEBRUARY 1987

CALLED OR INVOKED BY:
MANAGE/STATUS D_PENDING
FILE

CALLS OR INVOKES:
NA

INPUTS:
D_PEND_INFO
INST_D_DATE
INST_ACT

OUTPUTS:
D_PEND_INFO

PROCESS:

```
DO WHILE .T.
    FORMAT SCREEN
    ENTER INST_D_DATE
    ENTER INST_ACT
    RETRIEVE D_PEND_INFO FROM D_PENDING_FILE
    REPLACE DATE_TERM = INST_D_DATE
    REPLACE PHASE = INST_ACT
    DISPLAY RPT_*, DATE_TERM, PHASE
    "IS THIS DATA CORRECT? (Y/N)"
    IF Y THEN EXIT
END DO
RETURN
```

LOCAL DATA ELEMENTS:
NA

NOTES:
NA

# IPO CHART

SYSTEM: PMPS
MODULE: CHECK PHASE

PREPARED BY: ROSS
DATE: FEBRUARY 1987

CALLED OR INVOKED BY:
MANATE/STATUS D_PENDING
FILE

CALLS OR INVOKES:
NA

INPUTS:
D_PEND_INFO

OUTPUTS:
DD 1348-1
D_PEND_INFO
HOLD_REP
TRANS_REP

PROCESS:

```
DO CASE
    CASE A = PHASE = DL
        PRINT DD 1348-1
        SET PHASE = DLH
    CASE B = PHASE = DT
        PRINT TRANS_REP
        SET PHASE = DTH
    CASE C = PHASE = DLH OR DTH
        PRINT HOLD_REP
END CASE
RETURN
```

LOCAL DATA ELEMENTS:
NA

NOTES:
NA

# IPO CHART

SYSTEM: PMPS
MODULE: MODIFY RECORD

PREPARED BY: ROSS
DATE: FEBRUARY 1987

CALLED OR INVOKED BY:
DISPOSITIONS MANAGEMENT

CALLS OR INVOKES:
MANAGE/STATUS
D_PENDING FILE

INPUTS:
DD 1149
DD 1342
DD 1348-1(+)
D_PEND_INFO

OUTPUTS:
D_PEND_INFO

PROCESS:

```
DO WHILE .T.
   DO CASE
      CASE A = DD 1149
         ENTER NID_*
         RETRIEVE PROP_NID_* BY NID* FROM PLANT OR MINOR FILE
         DELETE D_PEND_INFO BY NID_* IN D_PENDING FILE
         DELETE DD 1342 BY PROP_NID_* IN PLANT OR MINOR FILE
      CASE B = DD 1348-1(+)
         ENTER DATE_TERM
         RETRIEVE PROP_NID_* BY DATE_TERM FROM D_PENDING FILE
         DELETE D_PEND_INFO BY DATE_TERM IN D_PENDING FILE
         DELETE DD 1342 BY PROP_NID_* IN PLANT OR MINOR FILE
      CASE C = MODIFY D_PEND_INFO
         ENTER DATE_TERM
         RETRIEVE D_PEND_INFO BY DATE_TERM FROM D_PENDING FILE
         BROWSE RECORD
         CALL MANAGE/STATUS D_PENDING FILE BY DATE_TERM
         UPDATE FILE
      CASE D = MODIFY DD 1342 ( FOR REUTILIZATION )
         ENTER DATE_TERM
         RETRIEVE PROP_NID_* BY DATE_TERM FROM D_PENDING FILE
         RETRIEVE DD 1342 BY PROP_NID_* FROM PLANT OR MINOR FILE
         DELETE D_PEND_INFO BY DATE_TERM IN D_PENDING FILE
         BROWSE DD 1342
         UPDATE DD 1342 TO PLANT OR MINOR FILE
         PRINT DD 1342
      CASE E = RETURN
   END CASE
END DO
```

LOCAL DATA ELEMENTS:
NA

NOTES:
NA

# IPO CHART

SYSTEM: PMPS
MODULE: AD-HOC REPORTS

PREPARED BY: SMITH
DATE: FEBRUARY 1987

CALLED OR INVOKED BY:

PMPS

CALLS OR INVOKES:

NONE

INPUTS:

NONE

OUTPUTS:

NONE

PROCESS:

```
DO WHILE .T.
        SELECT FILE(S) TO BE USED
        CREATE SEARCH CONDITIONS
        EDIT AND VERIFY SEARCH CONDITIONS
        IF REPORT IS DESIRED THEN
                DESIGN REPORT
                EDIT AND VERIFY REPORT
                SET PRINT ON
        EXECUTE REPORT
        SET PRINT OFF
        IF NO MORE REPORTS THEN RETURN
ENDDO
```

LOCAL DATA ELEMENTS:

NONE

NOTES:

SEE SAMPLE COPY OF THIS MODULE IN PMB OFFICE.

# APPENDIX E

## FORMS USED BY PMB

The following is a collection of forms currently used by PMB. The forms are in the same order as depicted in figure 2.2 which is duplicated on the next page. The intent is for a representative sample of the forms used by PMB.

# List of Forms used by PMB

| FORM | TITLE | ISSUER | ACQUISITION DISPOSITION | PURPOSE |
|---|---|---|---|---|
| DD 200 | REPORT OF SURVEY | LOCAL DEPT OR ISSUE CONTROL | D | Used to notify PPAO that a piece of equipment is lost, stolen, or damaged |
| DD 250 | MATERIAL INSPECTION & RECEIVING REPORT | ANOTHER COMMAND OR AGENCY | A | Describe Equipment and Acquisition Characteristics |
| DD 1149 | REQN AND INVOICE | ANOTHER COMMAND | D | Receipt of equipment |
| | SHIPPING DOC. | FREIGHT CONTROL | D | Used to ship excess equipment to anotner command |
| | | ANOTHER COMMAND | A | Excess equipment received from another command |
| DD 1155 | PURCHASE ORDER | PURCHASING | A | Used to order equipment for supply |
| DD 1342 | DOD PROPERTY RECORD | PLANT PROPERTY | | When new equipment is received and logged in 3 copies to NSCO 1 copy to the department 1 copy to file in PPOA |
| DD 1342 (IDLE) | DOD PROPERTY RECORD IDLE RPT OF IE FOR DISPOSITION | PLANT PROPERTY | D | Used to report idle IE to DIPEC |
| DD 1348 (6 PART) | REQN SYSTEM DOC.,MANUAL (STUB) | LOCAL DEPARTMENT | A | Initial request to requisition an item |
| DD 1348-1 | DOD SINGLE LINE ITEM RELEASE / | ISSUE CONTROL | D | Used to transfer excess equipment |
| | RECEIPT DOC. | ANOTHER COMMAND | A | Used to ship excess equipment from another command |
| DARIC Authorization | LETTER | DARIC | D | Authorizes diposition of ADPE either locally or to another command INCL shipping instr. |
| DIPEC-0-FL-99 | LETTER | DIPEC | D | Authorizes Disposition of IE either locally or to another command with shipping instructions |
| MEMO-E | EXCESS REQUEST | LOCAL DEPARTMENT | D | Request to excess one or more pieces of equipment |
| MEMO-R | REPLACEMENT REQUEST | LOCAL DEPARTMENT | A/D | Notifies PMB that an item has been replaced and the records require updating |
| MEMO-T | TRADE - IN REQUEST | LOCAL DEPARTMENT | D | Notifying PMB that a piece of equipment is being traded in on a new procurement |
| N/A | PROPERTY IDENTIFIER TAG | PLANT PROPERTY | A | Serialized property tag |
| SF 26 | AWARDS/ CONTRACT | OTHER COMMAND ACTIVITIES | A | Notice of equipment on order by higher command and designated for NAVFACS |
| SF 120 | REPORT OF EXCESS PERSONAL PROPERTY | PLANT PROPERTY | D | To request disposition instructions for ADPE |
| WAVERXOS-3989 | REACTIVE REPLY, ENDORSEMENT, TRANSMITTAL OR INFORMATION SHEET | PLANT PROPERTY | A/D | Document transmittal or Request of Notification to various other Commands |
| W/S 1342 WORK SHEET CODE 0024 | DOD PROPERTY RECORD | LOCAL DEPARTMENT | A | Used to record property tags and other user info for the DD-1342 |

# REPORT OF SURVEY

***PRIVACY ACT STATEMENT***

***Personal information from the individual is solicited. As required by the Privacy Act of 1974, we advise:***

AUTHORITY: 16 U.S.C. 136, 10 U.S.C. 1071; DoD Instruction 7200.10

PRINCIPAL PURPOSE: To officially report the facts and circumstances supporting the assessment of pecuniary charges for the loss, damage, or destruction of DoD-controlled property

ROUTINE USES: To initiate investigations of losses/gains of DoD-controlled property and record the findings and actions taken.

DISCLOSURE IS VOLUNTARY: Refusal to explain the circumstances under which the property was lost, damaged, or destroyed may be considered with other factors in determining if an individual will be held pecuniarily liable

| 1. TYPE REPORT (X one) | |
|---|---|
| | a. REPORT OF SURVEY |
| | b. GOVERNMENT PROPERTY LOSS/DESTROYED |
| 2. SURVEY NUMBER | |
| 3. DATE LOSS/GAIN DISCOVERED (YYMMDD) | |

| 4. NATIONAL STOCK NO | 5. ITEM DESCRIPTION | 6. QUANTITY | 7. UNIT COST | 8. TOTAL COST |
|---|---|---|---|---|
| | | | | |

9. CIRCUMSTANCES UNDER WHICH PROPERTY WAS (X one) ☐ LOST ☐ GAINED ☐ DAMAGED ☐ DESTROYED
(Attach additional pages, as necessary)

10. ACTIONS TAKEN TO CORRECT CIRCUMSTANCES REPORTED IN BLOCK 9 AND PREVENT FUTURE OCCURRENCES (Attach additional pages, as necessary)

11. INDIVIDUAL COMPLETING BLOCKS 9 AND 10

| a. TYPED NAME (Last, First, Middle Initial) | b. SIGNATURE | c. DATE SIGNED | d. AUTOVON NUMBER |
|---|---|---|---|
| | | | |

12. RESPONSIBLE OFFICER

| a. ORGANIZATIONAL ADDRESS (Unit Designation, Office Symbol, Base, State, Zip Code) | b. TYPED NAME (Last, First, Middle Initial) | c. AUTOVON NUMBER |
|---|---|---|
| | d. SIGNATURE | e. DATE SIGNED |

13. ACCOUNTABLE OFFICER

a. NUMBER OF DOCUMENTS USED TO ADJUST PROPERTY RECORD

| b. ORGANIZATIONAL ADDRESS (Unit Designation, Office Symbol, Base, State, Zip Code) | c. TYPED NAME (Last, First, Middle Initial) | d. AUTOVON NUMBER |
|---|---|---|
| | e. SIGNATURE | f. DATE SIGNED |

DD Form 200, OCT 84
S/N 0102-LF-000-2001

*Replaces DD Form 200, 83 MAY, AF Form 198, JAN 83; DD Form 2090, SEP 77; and DA Form 4697, SEP 81, which are obsolete.*

# Report of Survey DD 200 (page 2 of 2)

**14. FINDINGS AND RECOMMENDATION OF SURVEY OFFICER**

a. FINDINGS AND RECOMMENDATIONS *(Attach additional pages, as necessary)*

| b. DOLLAR AMOUNT OF LOSS/GAIN | c. RECOMMENDED PECUNIARY CHARGE | d. LOSS/GAIN TO GOVERNMENT |
|---|---|---|
| | | |

**15. SURVEY OFFICER**

| a. ORGANIZATIONAL ADDRESS *(Unit Designation, Office Symbol, Base, State, Zip Code)* | b. TYPED NAME *(Last, First, Middle Initial)* | c. AUTOVON NUMBER |
|---|---|---|
| | d. DATE REPORT SUBMITTED TO APPOINTING OFFICIAL | e. DATE APPOINTED |
| | f. SIGNATURE | g. DATE SIGNED |

**16. INDIVIDUAL CHARGED**

| a. I HAVE EXAMINED THE FINDINGS AND RECOMMENDATIONS OF THE SURVEY OFFICER AND *(X one)* | b. I AM AWARE OF MY RIGHT TO (1) LEGAL ADVICE AND (2) APPEAL IF PECUNIARY CHARGES ARE ASSESSED. ENLISTED PERSONNEL HAVE THE RIGHT TO REQUEST REMISSION OF INDEBTEDNESS |
|---|---|
| (1) SUBMIT THE ATTACHED STATEMENT OF OBJECTION | |
| (2) DO NOT INTEND TO MAKE SUCH A STATEMENT | |

| c. TYPED NAME *(Last, First, Middle Initial)* | d. SIGNATURE | e. DATE SIGNED | f. AUTOVON NUMBER |
|---|---|---|---|
| | | | |

**17. APPOINTING OFFICIAL**

| a. RECOMMENDATION *(X one)* | | b. COMMENTS |
|---|---|---|
| | (1) APPROVE | |
| | (2) DISAPPROVE | |

| c. ORGANIZATIONAL ADDRESS *(Unit Designation Office Symbol, Base, State, Zip Code)* | d. TYPED NAME *(Last, First, Middle Initial))* | e. AUTOVON NUMBER |
|---|---|---|
| | f. SIGNATURE | g. DATE SIGNED |

**18. APPROVING OFFICIAL**

| a. ACTION *(X one)* | | b. COMMENTS |
|---|---|---|
| | (1) APPROVED | |
| | (2) DISAPPROVED | |

| c. ORGANIZATIONAL ADDRESS *(Unit Designation, Office Symbol, Base, State, Zip Code)* | d. TYPED NAME *(Last, First, Middle Initial))* | e. AUTOVON NUMBER |
|---|---|---|
| | f. SIGNATURE | g. DATE SIGNED |

DD Form 200 Reverse, OCT 84

★U.S. GOVERNMENT PRINTING OFFICE 1985—505-012/18065 2-1

# Material Inspection and Receiving Report DD 250

| MATERIAL INSPECTION AND RECEIVING REPORT | 2 PROC INSTRUMENT IDEN (CONTRACT) DLA700-85-C-8315 | 3 DELIVERY NO 12078 DATE 86DEC11 | 4 PAGE 1 OF 1 — 5 ACCEPTANCE POINT S |
|---|---|---|---|

| 7 SHIPMENT NO | 8 DATE SHIPPED | 9 B/L C-1,988,847 ICN A | 5 DISCOUNT TERMS |
|---|---|---|---|
| HNB0049 | 87JAN15E | | NET 30 |

| 6 PRIME CONTRACTOR CODE 30076 | 10 ADMINISTERED BY CODE S4801A |
|---|---|
| HYSTER COMPANY<br>2902 N.E. CLACKAMAS STREET<br>PORTLAND, OREGON 97232 | DCASMA-SEATTLE<br>NAVAL STATION<br>BD. D<br>SEATTLE, WASHINGTON 98115-5010 |
| 11 SHIPPED FROM (if other than 6) CODE 7N460 FOB: S | 12 PAYMENT WILL BE MADE BY CODE S0506A |
| HYSTER COMPANY<br>4201 MICHOUD BLVD.<br>NEW ORLEANS, LOUISIANA 70129 | DCASR-LOS ANGELES<br>P.O. BOX 45011<br>LOS ANGELES, CALIFORNIA 90045-0042 |
| 13 SHIPPED TO CODE N62771<br>RECEIVING OFFICER<br>NAVAL POST GRADUATE SCHOOL<br>LFNT MONTEREY, CA 93940<br>DEST: 879744 | 14 MARKED FOR CODE<br>MF: REPLACE OVERAGE CODE 1300 6K UNITS<br>MIPR: N00104-85RC-09914 NON-MILSTRIP<br>RDD 5272 PRI 09 DLA700-85-C-8315<br>MIRR # HNB0049 |

| 15 ITEM NO | 16. STOCK PART NO / DESCRIPTION (Indicate number of shipping containers-type of containers-container number) | 17 QUANTITY SHIP'D/REC'D | 18 UNIT | 19. UNIT PRICE | 20. AMOUNT |
|---|---|---|---|---|---|
| 0025 | FSC: 3930 TRUCK, FORKLIFT, GAS<br>PRT. 6000 LB. CAPACITY, NON-MILSTRIP<br>OVERPACK (1) TECHINCAL MANUAL<br>SERIAL NO. A177B13562G REG. NO. 13-61276<br><br>1 LOOSE<br>1 OF 1 | 1 | EA | $15,855.00 | $15,855.00 |

REPRODUCED AT GOVERNMENT EXPENSE

| 21 PROCUREMENT QUALITY ASSURANCE | | 22 RECEIVER'S USE |
|---|---|---|
| A. ORIGIN<br>☒ POA ☒ ACCEPTANCE of listed items has been made by me or under my supervision and they conform to contract except as noted herein or on supporting documents | B. DESTINATION<br>☐ POA ☐ ACCEPTANCE of listed items has been made by me or under my supervision and they conform to contract except as noted herein or on supporting documents | Quantities shown in column 17 were received in apparent good condition except as noted |
| 86DEC11<br>DATE | DATE | DATE RECEIVED — SIGNATURE OF AUTH GOVT REP |
| SIGNATURE OF AUTH GOVT REP<br>LLOYD BROWN | SIGNATURE OF AUTH GOVT REP | TYPED NAME AND OFFICE |
| TYPED NAME AND OFFICE<br>S1901A | TYPED NAME AND TITLE | If quantity received by the Government is the same as quantity shipped, indicate by (√) mark; if different, enter actual quantity received below quantity shipped and encircle. |

23 CONTRACTOR USE ONLY

INV. #12078

DD FORM 250 REPLACES EDITION OF 1 AUG 67 WHICH MAY BE USED

☆ U.S. GOVERNMENT PRINTING OFFICE 1984—708 681

SHIPPING CONTAINER TALLY → 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50

# REQUISITION AND INVOICE/SHIPPING DOCUMENT

| | | |

CHECKED BOX APPLIES ☐ ORDER FOR SUPPLIES OR SERVICES ☐ REQUEST FOR QUOTATIONS NO. RETURN COPY(IES) OF THIS QUOTE BY (THIS IS NOT AN ORDER. See DD Form 1155r) | PAGE 1 OF

5 CERTIFIED FOR NATIONAL DEFENSE UNDER DMS REG 1 — 00

| 1 CONTRACT/PURCH ORDER NO | 2 DELIVERY ORDER NO | 3 DATE OF ORDER | 4 REQUISITION PURCH REQUEST NO |
|---|---|---|---|
| | | | |

| 6 ISSUED BY | CODE | 7 ADMINISTERED BY (If other than 6) | CODE | 8 DELIVERY FOB |
|---|---|---|---|---|
| | | | | ☐ DEST ☐ OTHER (See Schedule if other) |

| 9 CONTRACTOR/OUOTER | CODE | FACILITY CODE | 10 DELIVER TO FOB POINT BY | 11 CHECK IF BUSINESS IS |
|---|---|---|---|---|
| NAME AND ADDRESS | | | 12 DISCOUNT TERMS | ☐ SMALL ☐ SMALL DISADVANTAGED ☐ WOMEN OWNED |
| | | | 13 MAIL INVOICES TO | |

| 14 SHIP TO | CODE | 15 PAYMENT WILL BE MADE BY | CODE | MARK ALL PACKAGES AND PAPERS WITH CONTRACT OR ORDER NUMBER |
|---|---|---|---|---|
| | | | | |

16 TYPE OF ORDER

DELIVERY ☐ This delivery order is subject to instructions contained on this side of form only and is issued on another Government agency or in accordance with and subject to terms and conditions of above numbered contract.

PURCHASE ☐ Reference your ____ furnish the following on terms specified herein. Including, for U.S. purchases General Provisions of Purchase Order no DD Form 1155r (EXCEPT CLAUSE NO 12 APPLIES ONLY IF THIS BOX ☐ IS CHECKED AND NO 14 IF THIS BOX ☐ IS CHECKED): special provisions ____ and delivery as indicated. This purchase is negotiated under authority of 10 USC 2304(a)(3) or as specified in the schedule if within the U.S. its possessions or Puerto Rico (if otherwise under 2301(a)(5)).

☐ If checked. Additional General Provisions apply. Supplier shall sign Acceptance on DD Form 1155r and return ____ copies

17 ACCOUNTING AND APPROPRIATION DATA — ACCOUNTING CLASSIFICATION (SEE Y 451)

| ITEM NO | APPROPRIATION SYMBOL AND SUBHEAD | OBJECT CLASS | BUREAU CONT NO | SUB ALLOT | AUTH N ACCT G ACTY | TRANS TYPE | PROPERTY ACCT G ACTY | COUNTRY | COST CODE | AMOUNT |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | |

| 18 ITEM NO | 19 SCHEDULE OF SUPPLIES/SERVICES | 20 QUANTITY ORDERED/ ACCEPTED * | 21 UNIT | 22 UNIT PRICE | 23 AMOUNT |
|---|---|---|---|---|---|
| | | | | | |

* If quantity accepted by the Government is same as quantity ordered, indicate by 'X' mark. If different, enter actual quantity accepted below quantity ordered and encircle.

24 UNITED STATES OF AMERICA — BY ____ CONTRACTING/ORDERING OFFICER

25 TOTAL ____ 29 DIFFERENCES ____

26 QUANTITY IN COLUMN 20 HAS BEEN ☐ INSPECTED ☐ RECEIVED ☐ ACCEPTED AND CONFORMS TO THE CONTRACT EXCEPT AS NOTED

DATE ____ SIGNATURE OF AUTHORIZED GOVERNMENT REPRESENTATIVE

27 SHIP NO ____ ☐ PARTIAL ☐ FINAL

28 D.O. VOUCHER NO ____

30 INITIALS ____

31 PAYMENT ☐ COMPLETE ☐ PARTIAL ☐ FINAL

32 PAID BY ____

33 AMOUNT VERIFIED CORRECT FOR ____

34 CHECK NUMBER ____

35 BILL OF LADING NO ____

36 I certify this account is correct and proper for payment. DATE ____ SIGNATURE AND TITLE OF CERTIFYING OFFICER

| 37 RECEIVED AT | 38 RECEIVED BY | 39 DATE RECEIVED | 40 TOTAL CONTAINERS | 41 S/R ACCOUNT NUMBER | 42 S/R VOUCHER NO |
|---|---|---|---|---|---|
| | | | | | |

DD FORM 42 SEP 1155 PREVIOUS EDITIONS ARE OBSOLETE. S/N 0102 LF 001 1552

1

**THIS PARAGRAPH APPLIES ONLY TO QUOTATIONS SUBMITTED:**
Supplies are of domestic origin unless otherwise indicated by quoter. The Government reserves the right to consider quotations or modifications thereof received after the date indicated should such action be in the interest of the Government. This is a request for information and quotations furnished are not offers. When quoting, complete blocks 11, 12, 22, 23, 25. If you are unable to quote, please advise. This request does not commit the Government to pay any cost incurred in preparation of the submission of this quotation or to procure or contract for supplies or services.

## GENERAL PROVISIONS

1. INSPECTION AND ACCEPTANCE – Inspection and acceptance will be at destination, unless otherwise provided. Until delivery and acceptance, and after any rejections, risk of loss will be on the Contractor unless loss results from negligence of the United States Government. Notwithstanding the requirements for any Government inspection and test contained in specifications applicable to this contract, except where specialized inspections or tests are specified for performance solely by the Government, the Contractor shall perform or have performed the inspections and tests required to substantiate that the supplies and services provided under the contract conform to the drawings, specifications and contract requirements listed herein, including if applicable the technical requirements for the manufacturer's part numbers specified herein.

2. VARIATION IN QUANTITY – No variation in the quantity of any item called for by this contract will be accepted unless such variation has been caused by conditions of loading, shipping, or packing, or allowances in manufacturing processes, and then only to the extent, if any, specified elsewhere in this contract.

3. PAYMENTS – Invoices shall be submitted in quadruplicate (one copy shall be marked "Original") unless otherwise specified, and shall contain the following information: Contract or order number, item number, contract description of supplies or services, sizes, quantities, unit prices and extended totals. Bill of lading number and weight of shipment will be shown for shipments on Government Bills of Lading. Unless otherwise specified, payment will be made on partial deliveries accepted by the Government when the amount due on such deliveries so warrants.

4. DISCOUNTS – In connection with any discount offered, time will be computed from date of delivery of the supplies to carrier when acceptance is at the point of origin, or from date of delivery at destination or port of embarkation when delivery and acceptance are at either of these points, or from the date the correct invoice or voucher is received in the office specified by the Government, if the latter is later than date of delivery. Payment is deemed to be made for the purpose of earning the discount on the date of mailing of the Government check.

5. DISPUTES – *This contract is governed by the Contract Disputes Act of 1978 (Public Law 95-563) (the "Act"). The Act provides administrative procedures for the submittal, analysis, negotiation and, if necessary, litigation of claims relating to this contract. The parties to this contract must comply with certain time restrictions on rendering of contracting officer decisions on claims, and on the appeal of those decisions. Further details on the rights and remedies under the Act may be found in the DAR 1-314.)*

6. FOREIGN SUPPLIES – This contract is subject to the Buy American Act (41 U.S.C. 10a-d) as implemented by Section VI of the DAR and any restrictions in appropriation acts on the procurement of foreign supplies. The quotation must identify any foreign items to be furnished.

7. CONVICT LABOR – In connection with the performance of work under this contract, the Contractor agrees not to employ any person undergoing sentence of imprisonment except as provided by Public Law 89-176, September 10, 1965 (*18 U.S.C. 4082(c)(2)*) and Executive Order 11755, December 29, 1971.

8. OFFICIALS NOT TO BENEFIT – No member of or Delegate to Congress or resident commissioner, shall be admitted to any share or part of this contract, or to any benefit that may arise therefrom; but this provision shall not be construed to extend to this contract if made with a corporation for its general benefit.

9. COVENANT AGAINST CONTINGENT FEES – The Contractor warrants that no person or selling agency has been employed or retained to solicit to secure this contract upon an agreement or understanding for a commission, percentage, brokerage, or contingent fee, except bona fide employees or bona fide established commercial or selling agencies maintained by the Contractor for the purpose of securing business. For breach or violation of this warranty the Government shall have the right to annul this contract without liability or in its discretion to deduct from the contract price or consideration or otherwise recover, the full amount of such commission, percentage, brokerage or contingent fee.

10. GRATUITIES – (a) The Government may, by written notice to the Contractor, terminate the right of the Contractor to proceed under this contract if it is found after notice and hearing, by the Secretary or his duly authorized representative, that gratuities (*in the form of entertainment, gifts or otherwise*) were offered or given by the Contractor, or any agent or representative of the Contractor, to any officer or employee of the Government with a view toward securing a contract or securing favorable treatment with respect to the awarding or amending, or the making of any determinations with respect to the performing of such contract, provided, that the existence of the facts upon which the Secretary or his duly authorized representative make such findings shall be in issue and may be reviewed in any competent court. (b) In the event this contract is terminated as provided in paragraph (a) hereof, the Government shall be entitled (i) to pursue the same remedies against the Contractor as it could pursue in the event of a breach of the contract by the Contractor and (ii) as a penalty in addition to any other damages to which it may be entitled by law to exemplary damages in an amount (*as determined by the Secretary or his duly authorized representative*) which shall be not less than three nor more than ten times the costs incurred by the Contractor in providing any such gratuities to any such officer or employee. (c) The rights and remedies of the Government provided in this clause shall not be exclusive and are in addition to any other rights and remedies provided by law or under this contract.

11. CONDITION FOR ASSIGNMENT – This Purchase Order may not be assigned pursuant to the Assignment of Claims Act of 1940, as amended (*31 U.S.C. 203, 41 U.S.C. 15*), unless or until the supplier has been requested and has accepted this order by executing the Acceptance hereon.

12. COMMERCIAL WARRANTY – The Contractor agrees that the supplies or services furnished under this contract shall be covered by the most favorable commercial warranties the Contractor gives to any customer for such supplies or services and that the rights and remedies provided herein are in addition to and do not limit any rights afforded to the Government by any other clause of this contract.

13. PRIORITIES, ALLOCATIONS, AND ALLOTMENTS – The Contractor shall follow the provisions of DMS Reg. 1, or DPS Reg. 1 and all other applicable regulations and orders of the Bureau of Domestic Commerce in obtaining controlled materials and other products and materials needed to fill this order.

14. FAST PAYMENT PROCEDURE –

(a) *General.* This is a fast payment order. Invoices will be paid on the basis of the Contractor's delivery to a post office, common carrier, or in shipment by other means to the point of first receipt by the Government.

(b) *Responsibility for Supplies.* Title to the supplies shall vest in the Government upon delivery to a post office or common carrier for shipment to the specified destination. If shipment is by means other than post office or common carrier, title to the supplies shall vest in the Government upon delivery to the point of first receipt by the Government. Notwithstanding any other provision of the purchase order, the Contractor shall assume all responsibility and risk of loss for supplies (i) not received at destination, (ii) damaged in transit, or (iii) not conforming to purchase requirements. The Contractor shall either replace, repair, or correct such supplies promptly at his expense, provided instructions to do so are furnished by the Contracting Officer within ninety (90) days from the date title to the supplies vests in the Government. (180 days for overseas shipments.)

(c) *Preparation of Invoice.*

(1) Upon delivery of supplies to a post office, common carrier, or in shipments by other means, the point of first receipt by the Government, the Contractor shall prepare an invoice in accordance with Clause 3 of the General Provisions of Purchase Order, except that invoices under a blanket purchase agreement shall be prepared in accordance with the provisions of the agreement. All invoices shall also be prominently marked "Fast Pay."

(2) If the purchase price excludes the cost of transportation the Contractor shall enter the prepaid shipping cost on the invoice as a separate item. The cost of parcel post insurance will not be paid by the Government. If transportation charges are separately stated on the invoice, the Contractor agrees to retain related paid freight bills or other transportation billings paid separately for a period of three (3) years and to furnish such bills to the Government when requested for audit purposes.

(3) In the event this order requires the preparation of a Material Inspection and Receiving Report, DD Form 250, the Contractor has the option of either preparing the DD Form 250 or including the following information on the invoice in addition to that required in (c)(1) above: (A) a statement in prominent letters "NO DD 250 PREPARED", (B) shipment number (C) mode of shipment; and (D) at line item level, (i) National Stock Number and or manufacturer's part number, (ii) unit of measure, (iii) Ship-To-Point, (iv) Mark-For-Point if so contract, and (v) MILSTRIP document number if so contract. When a DD Form 250 is not required, the invoice will include the following information: (i) Ship-To-Point, (ii) Mark-For-Point and MILSTRIP document number if so contract, as well as the information in (c)(1) above. In all cases where no DD Form 250 is prepared, a copy of the invoice will be included in each shipment.

(d) *Certification of Invoice.* The Contractor agrees that the submission of an invoice to the Government for payment is a certification that the supplies for which the Government is being billed have been shipped or delivered in accordance with shipping instructions issued by the ordering officer, in the quantities shown on the invoice, and that such supplies are in the quantity and of the quality designated by the cited purchase order.

## OUTER SHIPPING CONTAINERS SHALL BE MARKED "FAST PAY"

15. *(This clause applies if this contract (i) for "prime" and is not exempted by applicable regulations of the Department of Labor.)*

SERVICE CONTRACT ACT OF 1965 – Except to the extent that an exemption, variation or tolerance would apply pursuant to 29 CFR 4 (or if this were a contract in excess of $2,500, the Contractor and any subcontractor hereunder shall pay all of his employees engaged in performing work on the contract not less than the minimum wage specified under section 6(a)(1) of the Fair Labor Standards Act of 1938, as amended (*current minimum wage*). However, in cases where section 6 (a)(2) of the Fair Labor Standards Act of 1938 is applicable, the rates specified therein will apply. All regulations and interpretations of the Service Contract Act of 1965 expressed in 29 CFR Part 4 are hereby incorporated by reference in this contract.

## ADDITIONAL GENERAL PROVISIONS

16. CHANGES – The Contracting Officer may at any time, by a written order and without notice to the sureties, make changes, within the general scope of this contract, in (i) drawings, designs, or specifications, where the supplies to be furnished are to be specially manufactured for the Government in accordance therewith; (ii) method of shipment or packing and (iii) place of delivery. If any such change causes an increase or decrease in the cost of, or the time required for performance of this contract, whether changed or not changed by any such order, an equitable adjustment shall be made by written modification of this contract. Any claim by the Contractor for adjustment under this clause must be asserted within 30 days from the date of receipt by the Contractor of the notification of change provided that the Contracting Officer, if he decides that the facts justify such action, may receive and act upon any such claim asserted prior to final payment under this contract. Failure to agree to any adjustment shall be a dispute concerning a question of fact within the meaning of the clause of this contract entitled "Disputes." However, nothing in this clause shall excuse the Contractor from proceeding with the contract as changed.

17. TERMINATION FOR DEFAULT – The Contracting Officer, by written notice, may terminate this contract, in whole or in part, for failure of the Contractor to perform any of the provisions hereof. In such event, the Contractor shall be liable for damages, including the excess cost of reprocuring similar supplies or services provided that, if (i) it is determined for any reason that the Contractor was not in default or (ii) the Contractor's failure to perform is without his and his subcontractor's control, fault or negligence, the termination shall be deemed to be a termination for convenience under paragraph 18. As used in this provision the term "subcontractor" and "subcontractors" means subcontractors at any tier.

18. TERMINATION FOR CONVENIENCE – The Contracting Officer, by written notice, may terminate this contract, in whole or in part, when it is in the best interest of the Government. If this contract is for supplies and is so terminated, the Contractor shall be compensated in accordance with Section VIII of the Defense Acquisition Regulation in effect on this contract's date. To the extent that this contract is for services and is so terminated, the Government shall be liable only for payment in accordance with the payment provisions of this contract for services rendered prior to the effective date of termination.

19. ASSIGNMENT OF CLAIMS – Claims for monies due or to become due under this contract shall be assigned only pursuant to the Assignment of Claims Act of 1940, as amended (*31 U.S.C. 203, 41 U.S.C. 15*). However, payments to an assignee of monies under this contract shall not, to the extent provided in said Act, as amended, be subject to reduction or set off (See Clause 11).

## ACCEPTANCE

THE CONTRACTOR HEREBY ACCEPTS THE OFFER REPRESENTED BY THE NUMBERED PURCHASE ORDER AS IT MAY PREVIOUSLY HAVE BEEN OR IS NOW MODIFIED, SUBJECT TO ALL OF THE TERMS AND CONDITIONS SET FORTH, AND AGREES TO PERFORM THE SAME.

| NAME OF CONTRACTOR | SIGNATURE | TYPED NAME AND TITLE | DATE SIGNED |
|---|---|---|---|
| | | | |

DD FORM 82 SEP 1155r

PREVIOUS EDITIONS ARE OBSOLETE.

# DOD Property Record Card DD 1342 (blank)

| DOD PROPERTY RECORD | 1. ☐ ACTIVE ☐ INITIAL ☐ IDLE ☐ CHANGE | 2. JULIAN DATE | 3. I.D./GOVERNMENT TAG NO. | Form Approved OMB No. 22-R0209 |
|---|---|---|---|---|

**SECTION I - INVENTORY RECORD**

| 4. COMMODITY CODE | 5. STOCK NUMBER | 6. ACQUISITION COST | 7. TYPE CODE | 8. YR OF MFG | 9. POWER CODE | 10. STATUS CODE | 11. SVC CODE | 12. COMMAND CODE | 13. ADM OFFICE CODE |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | |

| 14. NAME OF MANUFACTURER | 15. MFR'S CODE | 16. MANUFACTURER'S MODEL NO. | 17. MANUFACTURER'S SERIAL NO. |
|---|---|---|---|
| | | | |

| 18. LENGTH | 19. WIDTH | 20. HEIGHT | 21. WEIGHT | 22. CERTIFICATE OF NON-AVAILABILITY NUMBER | 23. REP NO. | 24. ARD | 25. CONTRACT NUMBER |
|---|---|---|---|---|---|---|---|
| | | | | | | | |

26. DESCRIPTION AND CAPACITY

CONTINUED ON REVERSE SIDE ☐ YES ☐ NO

27 ELECTRICAL CHARACTERISTICS

| QUANTITY | HORSEPOWER | VOLTS | PHASE | CYCLE | AC | DC | SPEED | TYPE AND FRAME NUMBER |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

28. PRESENT LOCATION

28a. CAPEC CONTROL NO.

29. POSSESSOR CODE

**SECTION II - INSPECTION RECORD**

| | | YES | NO | | | YES | NO |
|---|---|---|---|---|---|---|---|
| 30. | CAN ITEM BE STORED AND MAINTAINED ON S/E FOR AT LEAST 12 MONTHS? | | | 42. | MUST ITEM BE REPAIRED/OVERHAULED/REBUILT/OVER HAULED TO PERFORM ALL FUNCTIONS? $ | | |
| 31. | HAS ITEM BEEN REBUILT/OVERHAULED? DATE IF SO, WHEN? | | | 43. | DO QC RECORDS INDICATE SATISFACTORY PERFORMANCE? IF NO, EXPLAIN UNDER REMARKS BELOW | | |
| 32. | HAS ITEM BEEN MODIFIED FROM ORIGINAL CONFIGURATION? IF NO, EXPLAIN UNDER REMARKS BELOW | | | 44. | ARE MANUALLY OPERATED MECHANISMS IN WORKING ORDER? IF NO, DESCRIBE UNDER REMARKS BELOW | | |
| 33. | WAS ITEM INSPECTED UNDER POWER? IF NOT EXPLAIN UNDER REMARKS BELOW | | | 45. | ARE SCALES, DIALS AND GAUGES WORKING AND READABLE? IF NO, DESCRIBE UNDER REMARKS BELOW | | |
| 34. | ARE MAINTENANCE COSTS NORMAL? IF NOT EXPLAIN UNDER REMARKS BELOW | | | 46. | ARE HYDRAULIC PUMPS, VALVES, AND FITTINGS OPERATING PROPERLY? IF NO, DESCRIBE UNDER REMARKS BELOW | | |
| 35. | ARE SAFETY DEVICES ADEQUATE AND SATISFACTORY? IF NOT, EXPLAIN UNDER REMARKS BELOW | | | 47. | ARE ELECTRONIC SYSTEMS AND CONTROLS OPERATING PROPERLY? IF NO, DESCRIBE UNDER REMARKS BELOW | | |
| 36. | ARE INSTALLATION INSTRUCTIONS AVAILABLE FOR TRANSFER? | | | 48. | HOW MANY HOURS WAS ITEM USED BY CURRENT POSSESSOR? | | |
| 37. | ARE OPERATING INSTRUCTIONS AVAILABLE FOR TRANSFER? | | | 49. | EXPLAIN UNDER REMARKS LAST USE OF EQUIPMENT DESCRIBED IN ITEM 26 ABOVE | | |
| 38. | WAS ITEM LAST USED ON A FINISHING OPERATION? | | | 50. | ESTIMATED COST FOR PACKING, CRATING, HANDLING $ | | |
| 39. | WILL ADJUSTMENTS OR CALIBRATION CORRECT DEFICIENCIES? | | | 51. | INDICATE DATE ITEM WILL BE AVAILABLE FOR REDISTRIBUTION | | |
| 40. | IS ITEM SALVABLE WITHOUT DAMAGE TO COMPO NENTS? IF NOT, GIVE THEIR REPLACEMENT COST $ | | | 52. | CONDITION CODE | | |
| 41. | IS ITEM IN OPERABLE CONDITION? | | | 53. | OPERATING TEST CODE | | |

**SECTION III - REMARKS**

54. REMARKS

REMARKS CONTINUED ON REVERSE SIDE ☐ YES ☐ NO

**SECTION IV - DISPOSITION RECORD**

| 55. CONSIGNEE (NAME AND ADDRESS, INCLUDING ZIP CODE) | 56. TYPE OF DISPOSITION | 56a. DATE OF DISPOSITION AND PROCEEDS IF SOLD |
|---|---|---|
| | ☐ DONATION ☐ DESTRUCTION ☐ SALE ☐ ABANDONMENT | |

**SECTION V - VALIDATION RECORD**

57. VALIDATION (TYPED NAME(S) AND SIGNATURE(S))

DD FORM 1 MAY 78 1342 S/N 0102-LF-001-3420 EDITION OF 1 AUG 77 MAY BE USED UNTIL EXHAUSTED PAGE 1 OF 2 PAGES

# DOD Property Record Card DD 1342 (filled in)

**DOD PROPERTY RECORD** | 1 ☐ ACTIVE ☐ INITIAL ☒ IDLE ☐ CHANGE | 2. JULIAN DATE: 6276 | 3. I.D./GOVERNMENT TAG NO.: 62271 014582 | Form Approved OMB No. 22-R0209

**SECTION I - INVENTORY RECORD** MECH. ENGR. KNOX (59)

| 4. COMMODITY CODE | 5. STOCK NUMBER | 6. ACQUISITION COST | 7. TYPE CODE | 8. YR OF MFG | 9. POWER CODE | 10. STATUS CODE | 11. SVC CODE | 12. COMMAND CODE | 13. AOM OFFICE CODE |
|---|---|---|---|---|---|---|---|---|---|
| 6650-2171-5014 | | 9920 | 1 | 67 | 11 | 1A | 1 | N00011 | N00228 |

| 14. NAME OF MANUFACTURER | 15. MFR'S CODE | 16. MANUFACTURER'S MODEL NO. | 17. MANUFACTURER'S SERIAL NO. |
|---|---|---|---|
| PERKINS-ELMER CORP. | 46555 | MOD 303 | 28183 |

| 18. LENGTH | 19. WIDTH | 20. HEIGHT | 21. WEIGHT | 22. CERTIFICATE OF NON-AVAILABILITY NUMBER | 23. PEP NO | 24. ARD | 25. CONTRACT NUMBER |
|---|---|---|---|---|---|---|---|
| - | - | - | 600 | | | | N00228-67-C-3168 |

26. DESCRIPTION AND CAPACITY

SPECTROPHOTOMETER

INDICATING, MULTISPECTRUM. LINE DENSITY: UV-2880 LINES/MM, VIS-1440 (T) LINES/MM. 1980 ANGSTROMS TO 8700 ANGSTROMS OPERATING RANGE.

SEE 7114-6216-2045

CONTINUED ON REVERSE SIDE ☐ YES ☐ NO

27. ELECTRICAL CHARACTERISTICS

| QUANTITY | HORSEPOWER | VOLTS | PHASE | CYCLE | AC | DC | SPEED | TYPE AND FRAME NUMBER |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

28. PRESENT LOCATION
D.M. CRAIN, A/V 878-2548
NAVAL POSTGRADUATE SCHOOL, MONTEREY, CA 93943
PLANT ACCOUNT SECTION (CODE 0024)

28a. OIPEC CONTROL NO.

29. POSSESSOR CODE
62271(7685435)

**SECTION II - INSPECTION RECORD**

| | | YES | NO | | | YES | NO |
|---|---|---|---|---|---|---|---|
| 30 | CAN ITEM BE STORED AND MAINTAINED ON SITE FOR AT LEAST 12 MONTHS? | X | | 42 | MUST ITEM BE REPAIRED/OVERHAULED/MOVED HAULED TO PERFORM ALL FUNCTIONS? $ | | X |
| 31 | WAS ITEM WHEN BUILT/OVERHAULED? (DATE) (EST) (ACTUAL) | | X | 43 | DO DC RECORDS INDICATE SATISFACTORY PERFORMANCE? (YES) (NO, EXPLAIN UNDER REMARKS BELOW) | X | |
| 32 | WAS ITEM MODIFIED FROM ORIGINAL CONFIGURATION? (NO) (YES, EXPLAIN UNDER REMARKS BELOW) | | X | 44 | ARE MANUALLY OPERATED MECHANISMS IN WORKING ORDER? (IF NO, DESCRIBE UNDER REMARKS BELOW) | X | |
| 33 | WAS ITEM INSPECTED UNDER POWER? (IF NOT, EXPLAIN UNDER REMARKS BELOW) | X | | 45 | ARE SCALES, DIALS, AND GAUGES WORKING AND READABLE? (IF NO, DESCRIBE UNDER REMARKS BELOW) | X | |
| 34 | ARE MAINTENANCE COSTS NORMAL? (IF NOT, EXPLAIN UNDER REMARKS BELOW) | X | | 46 | ARE HYDRAULIC PUMPS, VALVES, AND FITTINGS OPERATING PROPERLY? (IF NO, DESCRIBE UNDER REMARKS BELOW) | X | |
| 35 | ARE SAFETY DEVICES ADEQUATE AND SATISFACTORY? (IF NOT, EXPLAIN UNDER REMARKS BELOW) | X | | 47 | ARE ELECTRONIC SYSTEMS AND CONSOLES OPERATING PROPERLY? (IF NO, DESCRIBE UNDER REMARKS BELOW) | X | |
| 36 | ARE INSTALLATION INSTRUCTIONS AVAILABLE FOR TRANSFER? | X | | 48 | HOW MANY HOURS WAS ITEM USED BY CURRENT POSSESSOR? | 200 | |
| 37 | ARE OPERATING INSTRUCTIONS AVAILABLE FOR TRANSFER? | X | | 49 | EXPLAIN UNDER REMARKS LAST USE OF EQUIPMENT DESCRIBED IN ITEM 7A ABOVE | | |
| 38 | WAS ITEM LAST USED ON A FINISHING OPERATION? | | X | 50 | ESTIMATED COST FOR PACKING, CRATING, HANDLING $ | | |
| 39 | WILL ADJUSTMENTS OR CALIBRATION CORRECT DEFICIENCIES? | X | | 51 | INDICATE DATE ITEM WILL BE AVAILABLE FOR REDISTRIBUTION | | |
| 40 | IS ITEM COMPLETE WITH ALL PARTS TO COMPLY WITH T.M.? (IF NOT, GIVE ITEM REPLACEMENT COST $) | X | | 52 | CONDITION CODE | A4 | |
| 41 | IS ITEM IN OPERABLE CONDITION? | X | | 53 | OPERATING TEST CODE | | |

**SECTION III - REMARKS**

54. REMARKS

#49 STUDENT TRAINING & CHEMICAL ANALYSIS.

REMARKS CONTINUED ON REVERSE SIDE ☐ YES ☐ NO

**SECTION IV - DISPOSITION RECORD**

| 55. CONSIGNEE (NAME AND ADDRESS, INCLUDING ZIP CODE) | 56. TYPE OF DISPOSITION | 56a. DATE OF DISPOSITION AND PROCEEDS IF SOLD |
|---|---|---|
| | ☐ DONATION ☐ DESTRUCTION ☐ SALE ☐ ABANDONMENT | |

**SECTION V - VALIDATION RECORD**

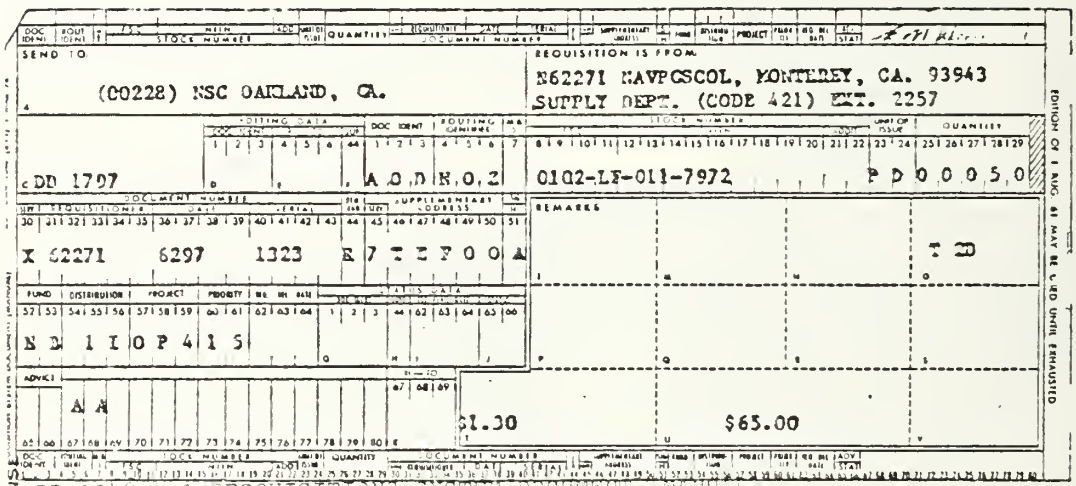
57. VALIDATION (TYPED NAME(S) AND SIGNATURE(S))

DD FORM 1 MAY 70 1342 S/N 0102-LF-001-3420 EDITION OF 1 AUG 77 MAY BE USED UNTIL EXHAUSTED PAGE 1 OF 2 PAGES

T

REPRODUCED AT GOVERNMENT EXPENSE

# Requisition System Document (Manual) DD 1348



SEND TO

(C0228) NSC OAKLAND, CA.

REQUISITION IS FROM

N62271 NAVPGSCOL, MONTERREY, CA. 93943
SUPPLY DEPT. (CODE 421) EXT. 2257

c DD 1797 | A O D | 0102-LF-011-7972 | P D 0 0 0 5 0

X 62271 6297 1323 E 7 T E F 0 0 A

REMARKS

T D

N D 1 I 0 P 4 1 5

A A

$1.30

$65.00

DD 1348 - 1 REQUISITIONS SYSTEM DOCUMENT (MANUAL)

GOVERNMENT EXPENSE

EDITION OF 1 AUG 68 MAY BE USED UNTIL EXHAUSTED

# DARIC Authorization Letter

REPORT NUMBER: N622716213 DOD CASE NUMBER: 6119-86
AGENCY CONTROL NO: 861017 AUTOMATIC RELEASE DATE (ARD): 11 JAN 87

DOD 7950.1-M, DEFENSE AUTOMATION RESOURCES MANAGEMENT MANUAL, ESTABLISHES REUTILIZATION PROCEDURES FOR EXCESS AUTOMATION EQUIPMENT (AE). GOVERNMENT-OWNED AE IS TO BE RETAINED 21 DAYS AFTER THE ARD FOR DONATION SCREENING PRIOR TO TURN-IN TO PROPERTY DISPOSAL. LEASED AE IS NOT SCREENED FOR DONATION - RETURN TO VENDOR WHEN CONTRACT EXPIRES. FOR ADDITIONAL INFORMATION CALL DARIC-R AV 284-6317 OR (202) 274-6317.

NAVAL POSTGRADUATE SCHOOL
ATTN: D M CRAIN
CODE 0024
MONTEREY CA 93943-

Jo Ann 2/11/87 F 9124176

REPRODUCED AT GOV

# DIPEC-0-FL-99 Letter

DEFENSE LOGISTICS AGENCY
DEFENSE INDUSTRIAL PLANT EQUIPMENT CENTER
2163 AIRWAYS BOULEVARD
MEMPHIS, TENNESSEE 38114-5297

IN REPLY REFER TO DIPEC-OID (Mr. Robert E. Jamison/(AV)683-6512/rmc) 4 Nov 86

SUBJECT: Disposition of Excess IPE, ID 52271-014582 NSN N/A

TO: Commanding Officer
U.S. Naval Postgraduate School
ATTN: NC4 (0024) DMC/D.M. Crain
Monterey, CA 93943

1. Reference: DoD 4160.21-M, Defense Disposal Manual, Chapter VI, para. B.55.

2. Subject item was reported as idle to DIPEC for disposition instructions in accordance with the reference, Chapter VI, para B 55. It has been determined that the item is excess to DoD requirements.

3. Request accountability be turned over to DPDO Ord within 10 days. If this is not the appropriate DPDO for your activity, turn it in to the correct DPDO and advise DIPEC by copy of your disposition turn-in document (DTID).

4. Furnish the DPDO a copy of this letter when item is turned in according to Chapter VI, para B 55 b (2) of reference. In addition, reference requires a turn-in document and 2 copies of DD Form 1342. In compliance with B 55 a (2), the DTID number should perpetuate the document number that reported the item to DIPEC; however, if one was not used in the DD Form 1342 idle report to DIPEC, assign a TID.

5. Actions to be taken by DIPEC or required by the DPDO are indicated below by an "X" in the applicable block:

a. ☒ This Center will report the item to GSA on the excess report document number below upon receipt of the XYZ card from DPDS indicating that the item has been turned in to the DPDO.

b. ☐ Item does not meet criteria as "Reportable Excess Property". Procedures in DoD 4160.21-M for local area screening apply. The document number assigned below is for system control.

| EXCESS REPORT DOCUMENT NO. | DEMIL CODE | REPORTING ACTIVITY DOCUMENT NUMBER |
|---|---|---|
| SE4300-6304-L048 | A | N/A |

FOR THE COMMANDER:

JOSEPH P. LACKEY
Chief, Inventory Management Branch #2

1 Encl
DD Form 1342

DIPEC-O-FL-99
JUL 85 (Rev)

REPRODUCED AT GOVERNMENT EXPENSE

# Excess Request MEMO-E (filled in)

NAVAL POSTGRADUATE SCHOOL
Monterey, California

Date 28 July 1986

From: Laboratory Manager, Department of Electrical & Computer Engineering
To: Supply Officer (Code 42)
Via: Plant Account (Code 0024)

SUBJ: EXCESS PROPERTY/EXCESS ADPE AVAILABLE FOR SCREENING, REDISTRIBUTION OR DISPOSAL

1. The following property/ADPE property is excess to this department and available for redistribution. Material may be screened and inspected at location indicated.

a. Noun Name/Nomenclature Oscillator
b. NSN (National Stock Number) 6625-00-LSN
c. Plant Account No. 62271-009144
d. Location: Bullard Hall Room 212
e. Indicate Class III ( ) or DIFEC Class IV ( )
f. Detailed item nomenclature with related characteristics, capabilities, and special instructions:
g. Manufacturer: Varian Associates
h. Model: VA-161
i. Serial Number: 406
j. Quantity: One
k. Original or acquisition cost per itme/unit $ 1,750 (1959)
l. Current condition code (refer to Chapter 3 of Desk Guide) F6
m. Security Classification: Unclassified
n. Contact (name and telephone no.) Lily Nimri X2423

R. K. Donat
Laboratory Manager

# Excess Request MEMO-E (blank)

Date _____

From: Chairman/Department Head _____
To: Supply Officer (Code 42)

Subj: Excess property available for screening, redistribution or disposal

1. The following is excess to this department and available for redistribution. Material may be screened and inspected at location indicated:

a. Noun nomenclature _____
b. NSN (National Stock Number) _____
c. Plant Account Number (if applicable) _____
d. Location _____
e. Indicate Class III ( ) or DIPEC Class IV ( )
f. Detailed item nomenclature with related characteristics, capabilities, and special instructions _____
_____
_____
g. Manufacturer, model and serial number _____
h. Quantity _____
i. Original or acquisition cost per item/unit $ _____
j. Current condition code (refer to Chapter 5 of Desk Guide) _____
k. Security Classification _____
l. Contact (name and telephone no.) _____

_____
Chairman/Department Head

Copy to:
Code 00224 (Plant Property Items Only)

# Replace Request MEMO-R

NC4(39)
06 Jun 86

From: Code 39
To: Code 0024

Subj: PLANT ACCOUNTING OF TELEVIDEO-XL'S

1. The following machines were defective and were returned to Federal Data Corporation. They should be removed from the Plant Accounting Records.

P/A 019547 TVIXL 8510452PC
P/A 019546 TVIXL 8510447PC
P/A 019550 TVIXL 8510467PC
P/A 019543 TVIXL 8510414PC

Replacements have been sent and have arrived.

J. T. MALOKAS, JR.

# Trade-in Request MEMO-T

DEPARTMENT OF THE NAVY
NAVAL POSTGRADUATE SCHOOL
MONTEREY CA 93943-5100

IN REPLY REFER TO
NC4(68Mr)/mso
19 Sep 1986

MEMORANDUM

From: Chairman, Department of Oceanography
To: Ms. Dorothy Crane, Code 0024

Subj: TRADE-IN OF 12 TEKTRONIX TERMINALS, CONTRACT #N00228-86-M-3256

1. Under above subject contract number, the following Tektronix terminals are being traded in. Please delete these from your property records:

| PLANT ACCOUNT # | MODEL # | SERIAL # |
|---|---|---|
| 62271-018402 | 4107 | B010277 |
| " 018403 | " | B010263 |
| " 018404 | " | B010286 |
| " 018405 | " | B010273 |
| " 018406 | " | B010105 |
| " 018407 | " | B010285 |
| " 018408 | " | B010223 |
| " 018409 | " | B010294 |
| " 018410 | " | B010283 |
| " 018411 | " | B010255 |
| " 018412 | " | B010282 |
| " 018432 | " | B011363 |

2. If you need any additional information, please contact Ms. Arlene Bird, x3258/2552.

for EDWARD B. THORNTON
Professor & Acting Chairman

# Trade-in Request MEMO-T

2 December 1986

MEMORANDUM

From: Chairman, Department of Mechanical Engineering, Code 69Hy
To: Dorothy Crain, Plant Account, Code 4215

Subj: TRADE IN OF ELECTRON MICROSCOPE, PLANT ACCOUNT #62271-013610

1. Electron Microscope, plant account #62271-013610, manufacturer - Kent Cambridge Scientific Co., model #MOS S4-10, serial #96113-0001-1035, acquisition cost $74,875.00, was used as a trade in on a new Scanning Electron Microscope, manufacturer - Cambridge Instruments, Inc., plant account #62271-10743, model #S200, serial #5040, acquisition cost $95,925.00. The trade in was completed in Dec. 1986. Please delete plant account #62271-013610 from Mechanical Engineering's plant account records.

ANTHONY T. HEALEY
Chairman

Property Identifier Tag

# Award/Contract SF 26 (page 1 of 2)

"J"

| AWARD/CONTRACT | 1. CERTIFIED FOR NATIONAL DEFENSE UNDER DPAS REG. 2 AND/OR DMS REG. 1 | RATING: DO-A7 | PAGE OF PAGES: 1 \| 2 |
|---|---|---|---|
| 2. CONTRACT (Proc. Inst. Ident.) NO.: N00228-86-C-3258 | 3. EFFECTIVE DATE: 86 SEP 03 | 4. REQUISITION/PURCHASE REQUEST/PROJECT NO.: N68519-86RC-NC119 | |

5. ISSUED BY — CODE: N00228

REGIONAL CONTRACTING DEPARTMENT
Naval Supply Center, Bldg. 311-2E
Oakland, CA 94625-5000
Buyer: B. Bryant Phone: (415) 466-4232

6. ADMINISTERED BY (If other than Item 5) — CODE: N00228

"A"
NONE

7. NAME AND ADDRESS OF CONTRACTOR (No., street, city, county, State and ZIP Code)

CSP, Inc.
2049 Century Park East
Suite 1200
Los Angeles, CA 90067
(213) 277-4257

63

8. DELIVERY
☐ FOB ORIGIN ☒ OTHER (See below)

9. DISCOUNT FOR PROMPT PAYMENT
30 DAYS - NET

10. SUBMIT INVOICES (4 copies unless otherwise specified) TO THE ADDRESS SHOWN IN: ITEM (Code 42) NPGS Monterey

CODE — FACILITY CODE

11. SHIP TO/MARK FOR — CODE: N62271
R.O., Bldg. 229
Naval Postgraduate School
Monterey, CA 93942

12. PAYMENT WILL BE MADE BY — CODE: N00179
Naval Regional Finance Center
Washington, DC 20371

13. THIS ACQUISITION WAS: (Check appl. box(es)) ☐ A ADVERTISED ☐ B NEGOTIATED PURSUANT TO: ☒ 10 USC 2304(a)( ) ☐ 41 USC 252(c)( )

14. ACCOUNTING AND APPROPRIATION DATA
AA 1761804.702F 000 600028 0 N00228 2D 009240 FP527438600 $37,030.00

| 15A. ITEM NO. | 15B. SUPPLIES/SERVICES | 15C. QUANTITY | 15D. UNIT | 15E. UNIT PRICE | 15F. AMOUNT |
|---|---|---|---|---|---|
| | PURSUANT TO YOUR OFFER DATED 27 AUGUST 1986, THE FOLLOWING ITEMS ARE ACCEPTED AND AWARD IS HEREBY MADE: | | | | |

15G. TOTAL AMOUNT OF CONTRACT ▶ $ 37,030.00

JS 86 SEP 29

16. TABLE OF CONTENTS

| (X) SEC. | DESCRIPTION | PAGE(S) | (X) SEC. | DESCRIPTION | PAGE(S) |
|---|---|---|---|---|---|
| | PART I — THE SCHEDULE | | | PART II — CONTRACT CLAUSES | |
| A | SOLICITATION/CONTRACT FORM | | I | CONTRACT CLAUSES | |
| B | SUPPLIES OR SERVICES AND PRICES/COSTS | | | PART III — LIST OF DOCUMENTS, EXHIBITS AND OTHER ATTACH. | |
| C | DESCRIPTION/SPECS./WORK STATEMENT | | | LIST OF ATTACHMENTS | |
| D | PACKAGING AND MARKING | | | PART IV — REPRESENTATIONS AND INSTRUCTIONS | |
| E | INSPECTION AND ACCEPTANCE | | | REPRESENTATIONS, CERTIFICATIONS AND OTHER STATEMENTS OF OFFERORS | |
| F | DELIVERIES OR PERFORMANCE | | | INSTRS., CONDS., AND NOTICES TO OFFER | |
| G | CONTRACT ADMINISTRATION DATA | | | EVALUATION FACTORS FOR AWARD | |
| H | SPECIAL CONTRACT REQUIREMENTS | | | | |

CONTRACTING OFFICER WILL COMPLETE ITEM 17 OR 18 AS APPLICABLE

17. ☐ CONTRACTOR'S NEGOTIATED AGREEMENT (Contractor is required to sign this document and return ____ copies to issuing office.) Contractor agrees to furnish and deliver all items or perform all the services set forth or otherwise identified above and on any continuation sheets for the consideration stated herein. The rights and obligations of the parties to this contract shall be subject to and governed by the following documents: (a) this award/contract, (b) the solicitation, if any, and (c) such provisions, representations, certifications, and specifications, as are attached or incorporated by reference herein. (Attachments are listed herein.)

18. ☒ AWARD (Contractor is not required to sign this document.) Your offer on Solicitation Number N00228-86-R-3258 including the additions or changes made by you which additions or changes are set forth in full above, is hereby accepted as to the items listed above and on any continuation sheets. This award consummates the contract which consists of the following documents: (a) the Government's solicitation and your offer, and (b) this award/contract. No further contractual document is necessary.

19A. NAME AND TITLE OF SIGNER (Type or print)

20A. NAME OF CONTRACTING OFFICER
N. MacARTHUR

19B. NAME OF CONTRACTOR — 19C. DATE SIGNED
BY _____ (Signature of person authorized to sign)

20B. UNITED STATES OF AMERICA — 20C. DATE SIGNED
BY _____ (Signature of Contracting Officer)
29 SEP 1986

NSN 7540-01-152-8069
PREVIOUS EDITION UNUSABLE

26-105

GPO : 1984 O - 434-858

STANDARD FORM 26 (REV. 10-83)
Prescribed by GSA
FAR (48 CFR) 53.214(a)

REPRODUCED AT GOVERNMENT EXPENSE

# Award/Contract SF 26 (page 2 of 2)



A2 FORMAL AWARD

This Formal Award is intended for all purposes to be effective as of the date of the Preliminary Notice of Award dated 03 September 1986, and supersedes and takes the place thereof.

B SUPPLIES OR SERVICES AND PRICES/COSTS

REQN: N68519-86RC-NC119

| | | | | |
|---|---|---|---|---|
| 0001 | Meteorological Array Processing Subsystem for Micro VAX ii, in accordance with specifications in Section C. REF #NW-1002 | 1 EA | $37,030.00 | $37,030.00 |

E14 INSPECTION AND ACCEPTANCE (DESTINATION)

Inspection and acceptance of the supplies or services to be furnished hereunder shall be made at destination by the receiving activity.

F16 TIME OF DELIVERY: On or before 20 October 1986

G6 NOTE: (1) Request the contractor to annotate final bill "final".
(2) Request NRFC to notify the contracting officer when final payment has been made in order that any remaining funds can be deobligated by contract amendment as soon as possible.

Instruction to receiving activity: By copy of this request, the receiving activity is to insure that invoices are not certified for payment in an amount greater than authorization on this request for items and quantities set forth in the contract/order including transportation cost.

REPRODUCED AT GOVERNMENT EXPENSE

# Report of Excess Personal Property SF 120

PAGE 1 OF _____

| STANDARD FORM 120 REV. APRIL 1957 GEN. SERV. ADMIN. FPMR (41 CFR) 101-43.311 | REPORT OF EXCESS PERSONAL PROPERTY | 1. REPORT NO. | 2. DATE MAILED | 3. TOTAL COST $ |
|---|---|---|---|---|

| 4. TYPE OF REPORT (Check one only of "a," "b," "c," or "d") | a. ORIGINAL | c. PARTIAL W/D | (Also check "e" and/or "f" if appropriate) | e. OVERSEAS |
|---|---|---|---|---|
| | b. CORRECTED | d. TOTAL W/D | | f. CONTRACTORS INV |

| 5. TO (Name and Address of Agency to which report is made) THRU | 6. APPROP. OR FUND TO BE REIMBURSED (if any) |
|---|---|
| 7. FROM (Name and Address of Reporting Agency) | 8. REPORT APPROVED BY (Name and Title) |
| 9. FOR FURTHER INFORMATION CONTACT (Title, Address and Telephone No.) | 10. AGENCY APPROVAL (if applicable) |
| 11. SEND PURCHASE ORDERS OR DISPOSAL INSTRUCTIONS TO (Title, Address and Telephone No.) | 12. GSA CONTROL NO. |

| 13. FSC GROUP NO. | 14. LOCATION OF PROPERTY (If location is to be abandoned give date) | 15. REIM/REDO YES | 15. REIM/REDO NO | 16. AGENCY CONTROL NO. | 17. SURPLUS RELEASE DATE |
|---|---|---|---|---|---|
| | | | | | |

| 18. EXCESS PROPERTY LIST | | | | | ACQUISITION COST | | FAIR VALUE |
|---|---|---|---|---|---|---|---|
| ITEM NO. (a) | DESCRIPTION (b) | COND. (c) | UNIT (d) | NUMBER OF UNITS (e) | PER UNIT (f) | TOTAL (g) | % (h) |
| | | | | | | | |

hwd (3)

STANDARD FORM 120 REV. APRIL 1957 EDITION (Use Standard Form 120A for Continuation Sheets) NSN 7540-00-634-4074 120-105 PREVIOUS EDITION USABLE

# US Government Bill of Lading (page 1 of 2)

LA4 U.S. GOVERNMENT BILL OF LADING — ORIGINAL — NO. C-

| | | | |
|---|---|---|---|
| 1. TRANSPORTATION COMPANY ENTERED TO: J & A TRANSPORTATION | 2. SCAC: JAPO | 3. DATE B/L PREPARED: 03DEC96 | 4. ROUTE ORDER/RELEASE NUMBER: 5VXX-17123 — 1 OF 2 |
| 5. DESTINATION (Name, address and ZIP code): NAS, MZ107 MOFFIETT FIELD, CA 94035 | 6. SPLC (Dest.): 876724 | 7. SPLC (Orig.): 647000 | 8. ORIGIN (Name, address and ZIP code): NEW ORLEANS, LA 70129-2229 |
| 9. CONSIGNEE (Name, address and ZIP code of installation): TRANSPORTATION OFFICER NAVAL AIR STATION MOFFETT FIELD, CA 94035 | 10. GBLOC (Cons.): LINL | 10A. DODAAC: N00296 | 11. SHIPPER (Name address and ZIP code): HYSTER COMPANY 4201 MICHOUD BLVD. NEW ORLEANS, LA 70129-2229 |
| | | | 11A. FSCM: 70078 |
| 12. APPROPRIATION CHARGEABLE: NMF-7-N887 | 12A. FCC: UJ | 13. BILL CHARGES TO (Dept./agency, bureau/office mailing address and ZIP code): C.O., NAVY MT MATERIAL TRANSPORTATION OFFICE CODE 021.2 BLDG. Z-133-5 NAVAL STATION, NORFOLK, VA 23511-5691 | AGENCY LOC CODE |
| 14. VIA (Route shipment when advantageous to the Government) | | | |

15. MARKS AND ANNOTATIONS (If extra services are ordered, see Administrative Directions No. 2 on reverse)

| 15A. DOD | TP |
|---|---|
| | |

MARK FOR: REPLACE OVERAGE CODE 1300 6K UNIT (MOFFETT FIELD, CA)(MIRR #HNB0034)

REPLACE OVERAGE 1300 6K UNIT (MONTEREY, CA)MIRR #HNB0049)

| 16. PACKAGES NO | KIND | HM | 17. 18. DESCRIPTION OF ARTICLES (Use carrier's classification or tariff description if possible; otherwise use a clear nontechnical description) | 19. WEIGHT* (Pounds only) | FOR USE OF BILLING CARRIER ONLY: Services | Rate | Charges |
|---|---|---|---|---|---|---|---|
| 4 | VE | | CLASSIFICATION ITEM NO. NMFC 999912 FREIGHT ALL KINDS | 43,388 | | | |
| | | | (SEE PAGE 2 FOR STOP-OFF INFO) | | | | |
| | | | SHIPPER TO LOAD & CONSIGNEE TO UNLOAD | | | | |
| | | | DELIVER THRU SOUTH GATE. | | | | |
| | | | SERIAL NO. A177B13520G REG. NO. 13-61234 | | | | |
| | | | SERIAL NO. A177B13521G REG. NO. 13-61235 | | | | |
| | | | SERIAL NO. A177B13522G REG. NO. 13-61236 | | | | |
| | | | CUBE: 3484 S/N A177B145626 13-61206 | | | | TOTAL CHARGES |

20. TARIFF/SPECIAL RATE AUTHORITY: JAPO 0001

21. PICKUP SERV FURNISHED ☐ YES VEHICLE FULLY LOADED ☐ YES SHIPPER'S INITIALS

22. CARRIER WAY/FREIGHT BILL NO. AND DATE

23. STOP THIS SHIPMENT AT: 1-STOP-OFF 1 VE SEE CONTINUATION SHEET PAGE 2 MONTEREY, CA SPLC: 879744 OR AUSTIN, TX 000INC

24. FURNISH INFORMATION ON CAR/TRUCKLOAD/CONTAINER SHIPMENTS

| INITIALS & NO | SEAL NUMBERS | LENGTH/CUBE ORDERED | LENGTH/CUBE FURNISHED | MARKED CAPACITY ORDERED | MARKED CAPACITY FURNISHED | DATE FURNISHED |
|---|---|---|---|---|---|---|
| | APPLIED BY | 40' | | | | |

25. CARRIER'S PICKUP DATE (Year, month & day): 97/01/09

26a. SIGNATURE OF AGENT: J & A Trans — J & A TRANSPORTATION

26b. PRO: DALE HECHT

11B/L NUMBER: C. 1988847

27. MODE: (A) AF

28. ESTIMATE: 2330

29. NO. OF CLS/TLS: 1

30. TYPE RATE: 1

31. PSC

32. REASON: N247

Received by the transportation company named above, subject to conditions (which are on the reverse hereof), the property described in good order and condition (contents and value unknown), to be forwarded to destination by the said company and connecting lines, there to be delivered in like good order and condition to said consignee.

FOR USE OF ISSUING OFFICE

33a. ISSUING OFFICE (Name and complete address): DCASMA DALLAS ldo P. O. BOX 50500 DALLAS, TX 75250-5050

33b. GBLOC: HDSK

33c. ISSUING OFFICER: CHARLES R. TERRY, TRANSPORTATION OFFICER

33d. CONTRACT/PURCHASE ORDER NO. OR OTHER AUTHORITY: DLA700-95-C-8315

33e. DATED

33f. FOB POINT NAMED IN CONTRACT: NEW ORLEANS, LA

CERTIFICATE OF CARRIER BILLING—CONSIGNEE MUST NOT PAY ANY CHARGES

34a. DELIVERED ON (Year, month & day)

34b. AT (Actual delivery point)

34c. BY (Name of delivering carrier)

34d. DELIVERED THIS CONSIGNMENT COMPLETE & IN APPARENT GOOD ORDER EXCEPT AS MAY BE INDICATED ☐ SHORTAGE ☐ DAMAGED

34e. ☐ CARRIER OS&D REPORT ATTACHED ☐ DELIVERY AT DESTINATION FURNISHED ☐ ACCESSORIAL SERVICES CERTIFICATION ATTACHED

34f. NAME OF BILLING CARRIER

34g. SIGNATURE OF CARRIER'S AGENT

*Show also cubic measurements for shipments via ... or truck or water carrier in cases where required. GOD EXCEPTION TO SF 1103 APPROVED BY GSA—IRMS — 1, 86

1103-122-05

STANDARD FORM 1103 (Rev. 4-85) PRESCRIBED BY GSA, FPMR (41 CFR) 101-41.3

REPRODUCED AT GOVERNMENT EXPENSE

# U.S. GOVERNMENT BILL OF LADING CONTINUATION SHEET

(This form is to be used as a continuation sheet for Standard Form 1104, U.S. Government Bill of Lading — Shipping Order, or Standard Form 1132, U.S. Government Transit Bill of Lading — Shipping Order.)

SHIPPING ORDER

B/L NO. C-1,988,847

SHEET NO. 2 OF 2

ISSUING OFFICE (Name and complete address)
DCASMA DALLAS DCASR DAL-GDAT
P. O. BOX 50500
DALLAS, TX 75250-3050

646411

| TRANSPORTATION COMPANY TENDERED TO | FROM (Shipping point) | WAYBILL DATE | WAYBILL NO |
|---|---|---|---|
| | | | |

| PACKAGES NO | PACKAGES KIND | DESCRIPTION OF ARTICLES (Use carrier's classification or tariff description if possible, otherwise use a clear nontechnical description) | NUMBERS ON PACKAGES | WEIGHTS* | RATE | FREIGHT | ADVANCES |
|---|---|---|---|---|---|---|---|
| | | STOP-OFF TO UNLOAD: 1 ℄ VE 10,847 348<br><br>TRANSPORTATION OFFICER<br>GBLOC NAVAL POSTGRADUATE SCHOOL<br>LFNT MONTEREY, CA 93940 (879744)<br>(MIRR #HNB0049)<br><br>SERIAL NO. A177B13562G REG. NO. 13-61276 | | | | | |

13 Jan 87

646411

*Show also cubic measurements for shipments via ... Exception to SF-1109

1110-112

STANDARD FORM 1110 (REV. 3-77)
PRESCRIBED BY GSA, FPMR (41 CFR) 101-41.3

Approved by NARS 7-78

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Reactive Reply, Endorsement, or Information WAVERXOS-3989

[illegible] USN registered [illegible] NAVFAC Engineering

ROUTINE REPLY, ENDORSEMENT, TRANSMITTAL OR INFORMATION SHEET
WAVEXOS-3989 (Rev. 12-62)

DATE 25 JULY 86

FROM
NAVAL POSTGRADUATE SCHOOL, MONTEREY, CA 93943

FILE NUMBER
NC4(0024)DMC

SUBJECT
DD 1342 PROPERTY RECORD CARD; FORWARDING OF

REFERENCE
(A) NAVCOMP MANUAL, PARA 036303.28

TO:
COMMANDING OFFICER
CHESAPEAK DIV.
NAVFACENGCOM
WASHINGTON NAVY YARD
WASHINGTON, D.C. 20374

ENCLOSURE
(1) USN 94-25806

This form may be used in a single routing.

Via

____ Endorsement on

[X] FORWARDED [ ] RETURNED [ ] FOLLOW-UP [ ] REQUEST [ ] ADVISE [ ] SUBMIT

| X | MESSAGE |
|---|---|
| X | FOR APPROPRIATE ACTION |
| | FOR INFORMATION OR CERTIFICATION AND/OR FILE. |
| | [ ] APPROVED [ ] DISAPPROVED |
| | APPROVAL [ ] IS [ ] IS NOT RECOMMENDED |
| | CONCURRING IN RECOMMENDATIONS MADE IN THE BASIC CORRESPONDENCE. |
| | COMMENTS AND/OR RECOMMENDATIONS. |
| | MAILING LIST ACTION |
| | FOR ASSIGNMENT OF BUREAU FILE NUMBER(S) |
| | ON A LOAN BASIS RETURN BY ____ |
| | SIGN ORIGINAL RECEIPT AND RETURN TO THIS OFFICE. |
| | SUBJECT FILES, WHICH ARE LOCATED IN BOX NO. ____ SHIPMENT NO. ____ |
| | REPLY TO THE ABOVE REFERENCE(S) BY ____ |
| | ____ COPY(IES) OF REFERENCE DESCRIBED ABOVE WAS/WERE NOT RECEIVED |
| | SUBJECT DOCUMENT(S) WAS/WERE FORWARDED TO ____ |
| | SUBJECT DOCUMENT(S) IS/ARE WAS/WERE RETURNED FOR ____ |

| X | MESSAGE |
|---|---|
| | SUBJECT DOCUMENT(S) WAS/WERE FORWARDED TO YOUR OFFICE ____ AS A MATTER UNDER YOUR JURISDICTION |
| | SUBJECT DOCUMENTS WAS/WERE APPROVED ____ AND FORWARDED TO YOU. |
| | ____ COPY(IES) OF THIS CORRESPONDENCE WITH YOUR REPLY. |
| | ENCLOSURE(S) ____ IS/ARE FORWARDED AS REQUESTED BY REFERENCE ____ |
| | ENCLOSURE(S) IS/ARE RETURNED FOR CORRECTION AS INDICATED. |
| | CORRECTED ENCLOSURE(S) AS REQUESTED |
| | SUBJECT PERSON'S ATTENTION SHOULD BE INVITED TO THIS MATTER |
| | SUBJECT PERSON(S) REPORTED TO THIS COMMAND ____ |
| | SUBJECT PERSON(S) COMPLETED HIS/THEIR DUTY AND WAS/WERE DETACHED FROM THIS COMMAND ____ |
| | NAME AND LOCATION OF SUPPLIER OF SUBJECT ITEMS. |
| | SUBCONTRACT NUMBER FOR SUBJECT ITEM |
| | SUBJECT PURCHASE DOCUMENT HAS BEEN REQUESTED AND WILL BE FORWARDED WHEN RECEIVED |
| | ENDORSEMENT ____ OF SUBJECT SUBCONTRACT IS BEING DELAYED PENDING RECEIPT OF BASIC PURCHASE DOCUMENT |
| | APPROPRIATION SYMBOL SUBHEAD AND CHARGEABLE ACTIVITY |
| | WHETHER SUBJECT ITEMS ARE TO BE COMMERCIALLY SHIPPED OR AT GOVERNMENT EXPENSE |
| | A CERTIFICATE IN LIEU OF SUBJECT BILL OF LADING WHICH HAS BEEN LOST |

| X | MESSAGE |
|---|---|
| | CERTIFY ENCLOSURE ____ AS TO RECEIPT AND ACCEPTANCE OF MATERIAL AND FORWARD TO ____ |
| | ____ COPIES OF SUBJECT CHANGE ORDER AMENDMENT OR MODIFICATION |
| | CHANGE NOTICE TO THE SUPPLIER |
| | ____ COPIES OF APPLICABLE PLANS AND/OR SPECIFICATIONS. |
| | FOR PLAN ACTION AS INDICATED |
| | CLASSIFICATIONS OF DEFECTS FOR SUBJECT ITEMS |
| | CONFIRMATION THAT INSPECTION OR SOURCE INSPECTION IS NOT REQUIRED |
| | INSPECTION UNDER THE SUBJECT SUBCONTRACT IS NOT REQUIRED |
| | ____ COPIES OF SUBJECT PURCHASE DOCUMENT, IF SOURCE INSPECTION OR PROGRESSING IS REQUIRED |
| | STATUS OF MATERIAL ON SUBJECT PURCHASE DOCUMENT |
| | CLEARANCE AS INDICATED IN BASIC CORRESPONDENCE VERIFIED. NO REPLY UNLESS NEGATIVE |
| | VERIFICATION OF NEED-TO-KNOW FOR VISIT PERSONNEL CLEARANCES VERIFIED. |
| | SEE REMARKS ON THE REVERSE SIDE |

COPY TO

SIGNATURE
D.M. CRAIN, PLANT ACCOUNT CLERK

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